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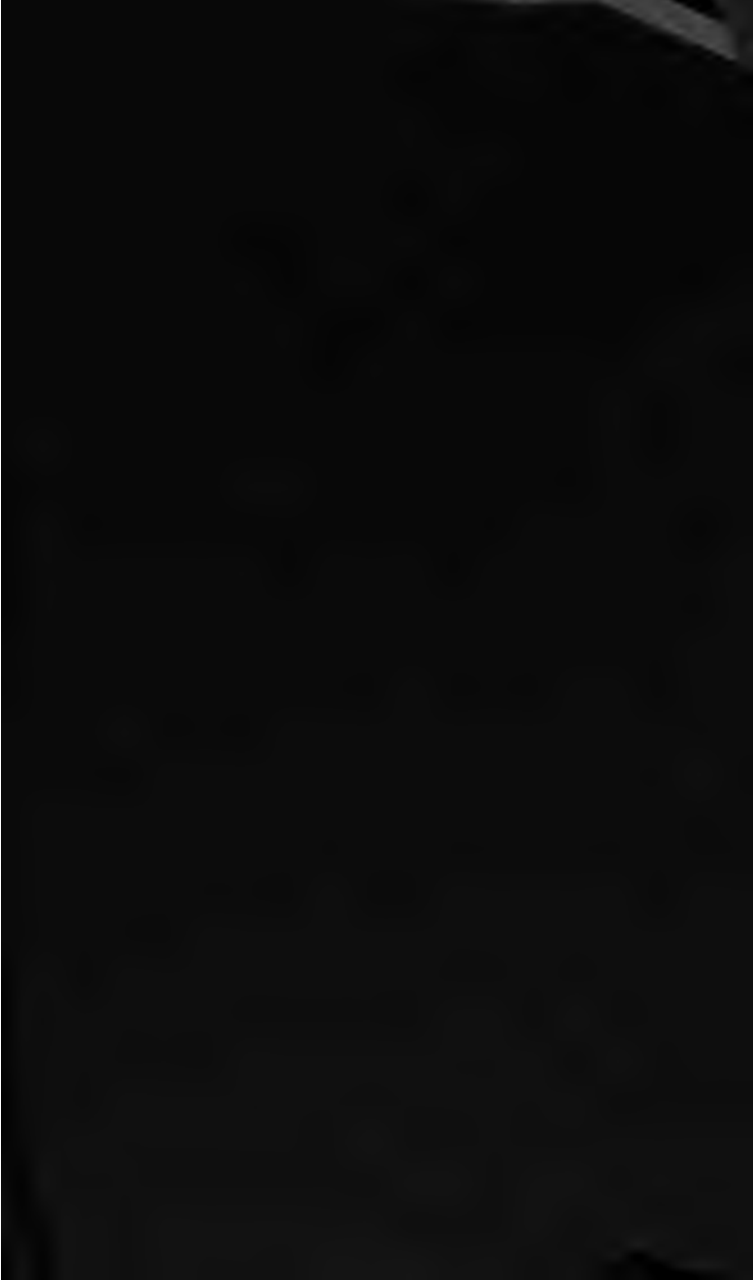
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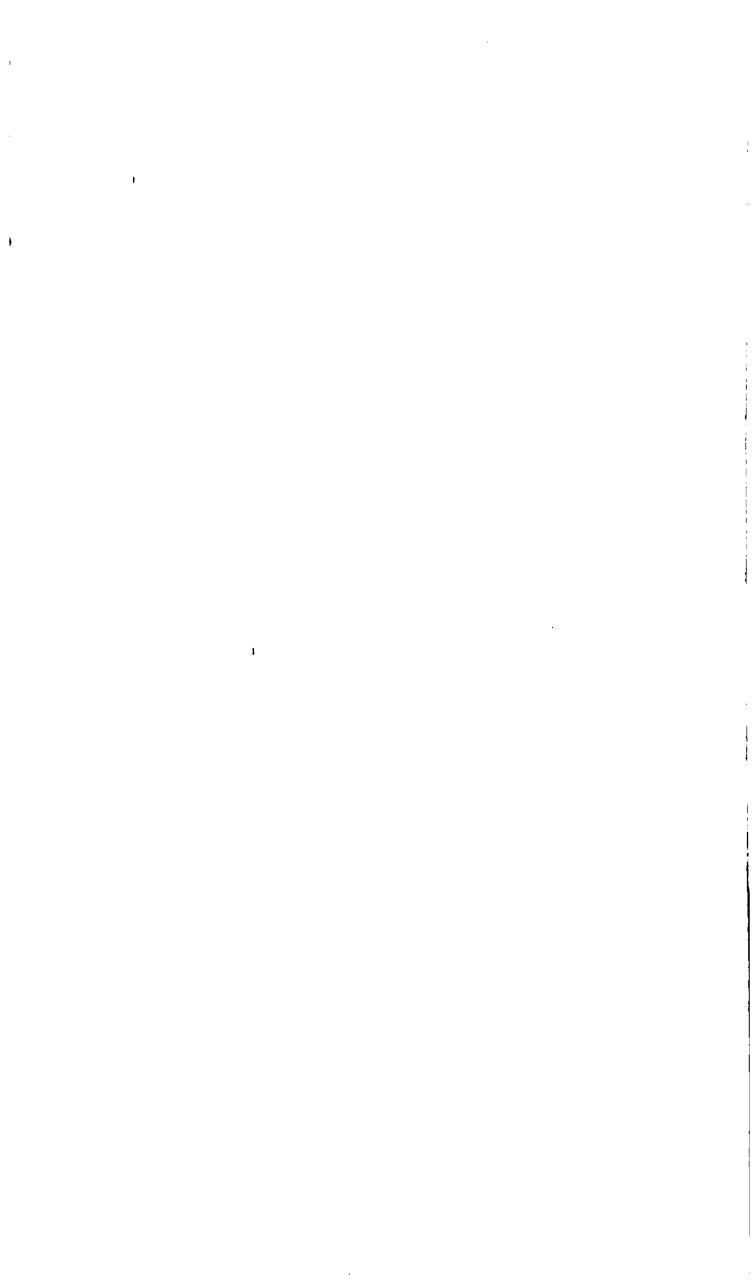


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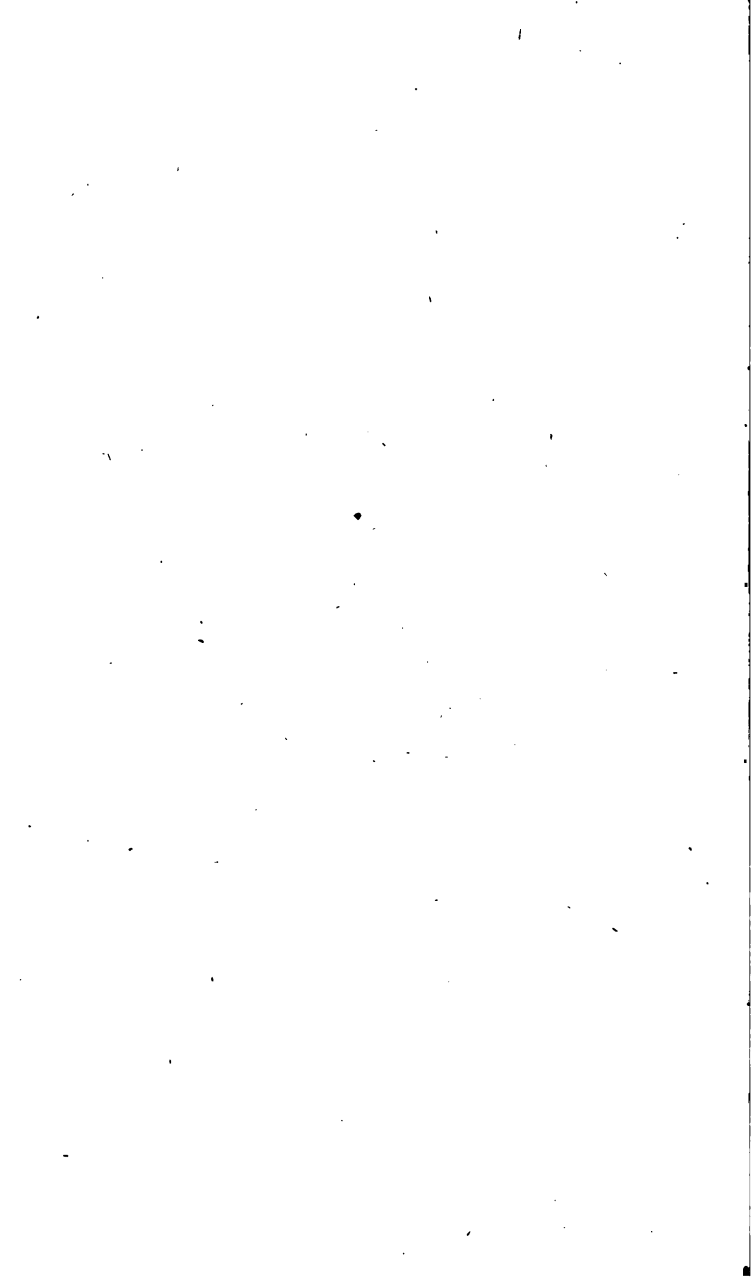


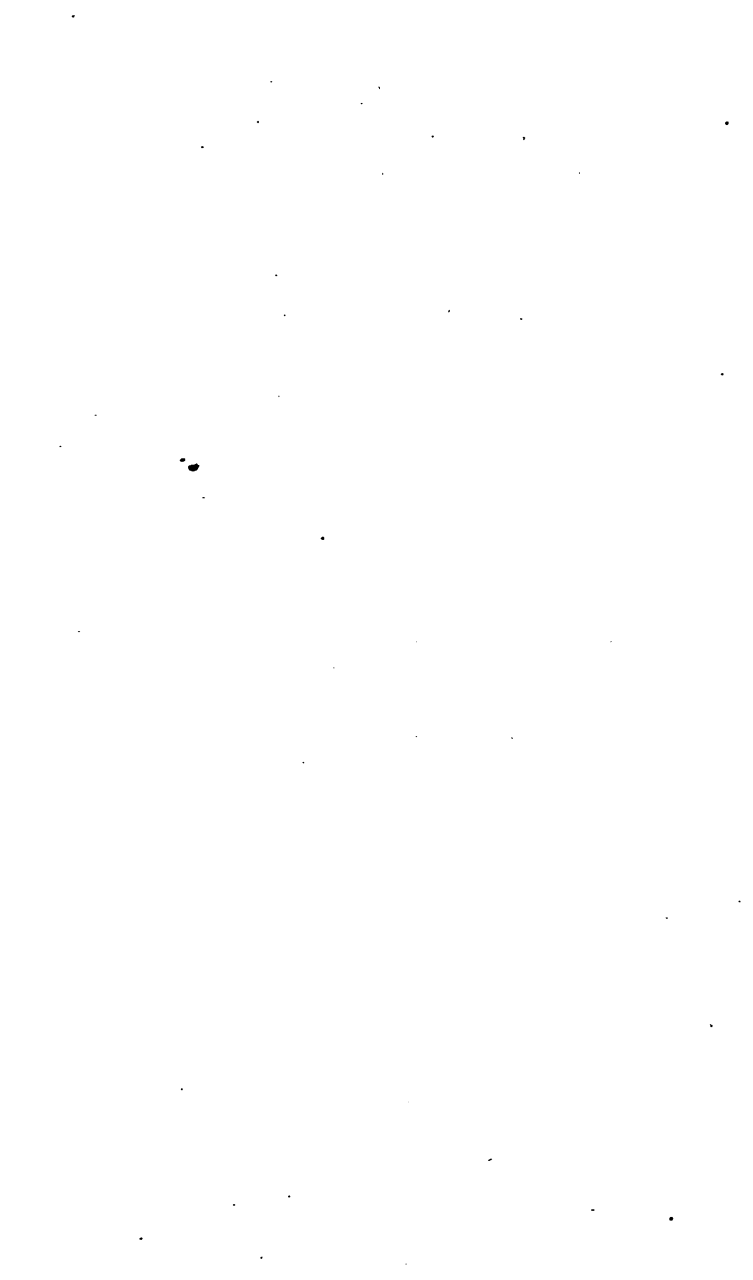


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MACLOC'S NATURAL HISTORY.

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A

NATURAL HISTORY

OF ALL THE MOST REMARKABLE

**QUADRUPEDS, BIRDS, FISHES, SERPENTS,
REPTILES, AND INSECTS.**

IN THE KNOWN WORLD:

Illustrative of their Natures, Dispositions, Manners, Habits, &c.

REGULARLY ARRANGED AND COMPILED BY

J. MACLOC, ESQ.

EMBELLISHED WITH UPWARDS OF

FOUR HUNDRED ELEGANT ENGRAVINGS ON WOOD

CUT BY Mr. J. THOMPSON.

From the Designs of the most approved Naturalists.

THE THIRD EDITION, CORRECTED AND IMPROVED.

LONDON:

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INTRODUCTION.



AMONG the numerous subjects that are continually issuing from the press, few are of greater utility than such as relate to Natural History—a science equally calculated to gratify a laudable curiosity, to afford an unfailing source of amusement, and to impress the mind with the most exalted ideas of that Divine Being, by whose eternal fiat the universe was brought into existence, and by whose infinite power and love, the lives of his creatures are preserved, and their wants abundantly supplied.

To the junior classes of society (as well as to readers in general) the study of Animal History seems peculiarly adapted, as every branch of it is replete with instruction; and the contemplation of every object which it exhibits, tends to ameliorate the heart, to illumine the understanding, and insensibly to allure to further research and investigation.

In many instances, it must be acknowledged, this fascinating science has appeared under the most uninviting forms; and the Fair Sex, in particular, have been deterred from the perusal of volumes which were, in some parts, offensive to the eye of female modesty; but in

\ the volume now under inspection, the most unremitting attention has been paid to obviate these objections; and the Editor can affirm, with conscious satisfaction, that the following pages are unsullied by a single sentence which might excite a blush, or contaminate, even in the slightest degree, the purest and most delicate mind.

The work now respectfully submitted a third time to the public, though not professedly systematic in its arrangement, is divided into four distinct classes,—Quadrupeds, Birds, Fishes, and Serpents, Reptiles, and Insects; and each class is embellished with upwards of a HUNDRED beautiful engravings on wood, from designs of the most eminent Naturalists.

It only remains to add, that the usual descriptions of form, size, colour, &c. are given in as concise a manner as the work will admit of, including such accounts of the manners, habits, and modes of life, of the several classes of animal creation, as are most likely to attract the attention of the reader, and render the subject generally interesting and instructive.

J. M.

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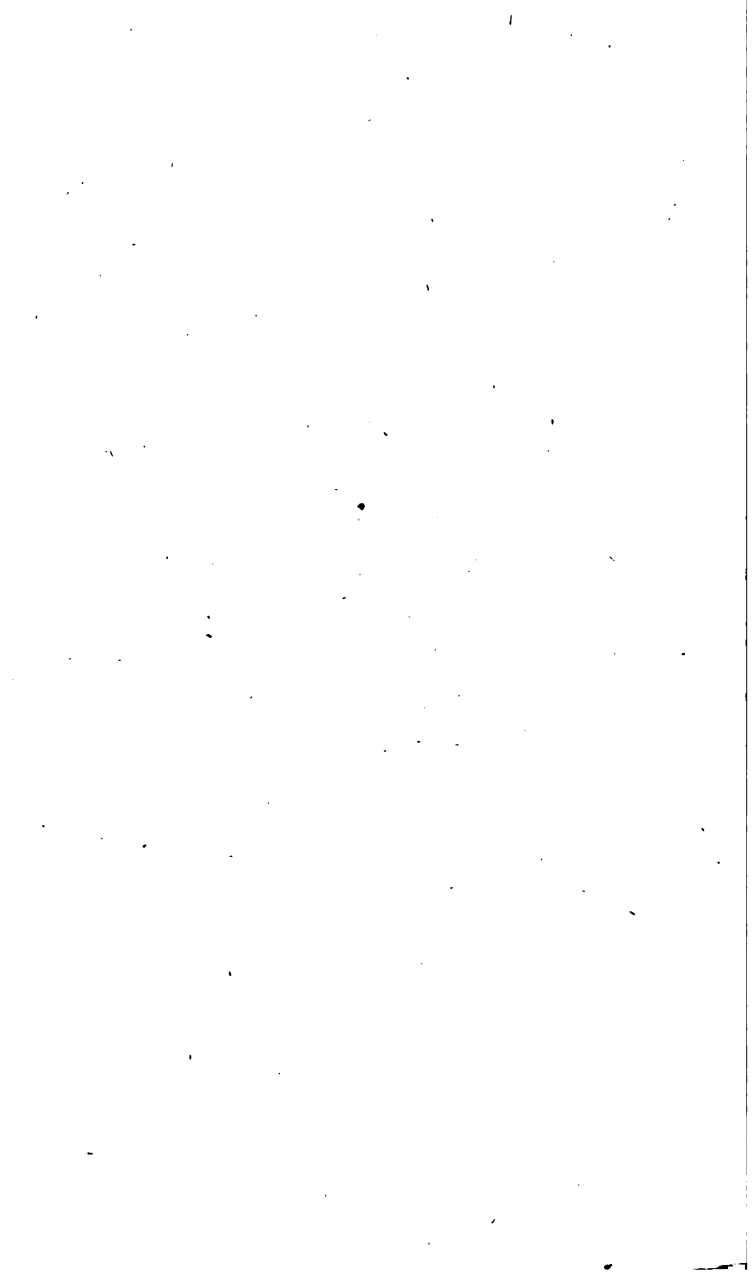
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The roaring of the lion is so loud, that when heard in the night, and re-echoed by the mountains, it resembles distant thunder. The roar is a deep hollow growl: but when enraged, he has a different cry, which is short, broken, and reiterated. This is always excited by opposition; and upon those occasions, when the lion summons up all his terrors for the combat, nothing can be more formidable. He then lashes his sides with his long tail, which alone is strong enough to lay a man level; his mane seems to rise, and stand like bristles round his head: the skin and muscles of his face are all in agitation; his huge eye-brows half cover his glaring eye-balls; he discovers his terrific teeth and tongue, and extends his claws, which appear almost as long as a man's fingers. Prepared in this manner for war, even the boldest of the human kind are daunted at his approach; and there are no animals, excepting the elephant, the rhinoceros, the tiger, and the hippopotamus, that will venture singly to engage him, which rarely happens; for the lion is in general the undisputed master of the forest.—At present, the lion is only found in Africa and the East Indies, in some of which countries he grows to an enormous height; but the ordinary size is between three and four feet: he is thought to be long lived, because he has been found toothless; but this is no certain sign, as it may proceed from his corrupt breath, or some other cause.

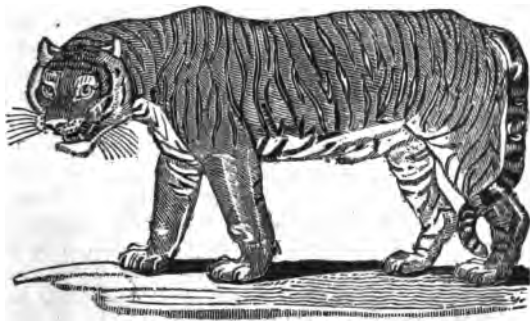
THE LIONESS.



THE lioness is, in all her dimensions, about one third less than the male, and is destitute of that mane which contributes so essentially to the majesty of her consort's

appearance. She is naturally less strong, less courageous, and less mischievous than the lion; but when she has young, she becomes equally formidable, and even more ferocious; as, at that time, she makes incursions with the utmost intrepidity; destroys both men and animals, without distinction; loads herself with the spoil, and carries it home reeking to her cubs, whom she accustoms betimes to cruelty and slaughter. She usually brings forth in the most sequestered and inaccessible places: and when she fears to have her retreat discovered, she often hides her tracks, by retracing her ground, or by brushing them out with her tail. Sometimes also, when her apprehensions are great, she transports her offspring from one place to another; and, if obstructed, defends them with determined courage, and fights to the last extremity. The young ones, when first brought forth, are about the size of a pug-dog, harmless, pretty, and playful; they continue at the teat nearly twelve months, and are about five years in coming to perfection.

THE TIGER.



It was proverbial among the ancients, that, "As the peacock is the most beautiful among birds, so is the tiger among quadrupeds." In fact, nothing can be more beautiful than this animal: the glossy smoothness of his hair, the extreme blackness of the streaks with which he is marked, and the bright yellow colour of the ground which they diversify, cannot fail of exciting the admiration of every beholder; whilst his slender, delicate, and

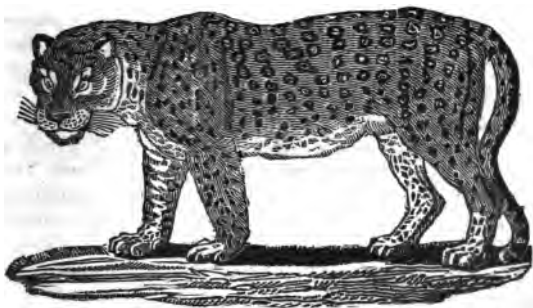
truly elegant form bespeaks extreme swiftness and agility. Unhappily, however, this animal's disposition is as mischievous as its form is admirable; and it seems to partake of all the noxious qualities of the lion, without possessing any of his good ones. To pride, courage, and strength, the lion joins greatness, clemency, and generosity; but the tiger is fierce without provocation, and cruel without necessity. In attacking a flock, or a herd, it gives no quarter, but levels all indiscriminately; and scarcely finds time to appease its appetite, while intent upon satisfying the malignity of its nature. It fears neither the threats nor the opposition of mankind; the beasts both wild and tame become the victims of its insatiable fury, and it not unfrequently ventures to attack the lion himself.

In proof of the enormous strength of this creature, it has been remarked, that whenever it kills a large animal, such as a horse or a buffalo, it carries off its prey to the forest; dragging it along with such facility, that the swiftness of its motion seems scarcely retarded by the enormous load it sustains.

The tiger's method of taking his prey is, in general, by concealing himself, and springing suddenly on his victim; and it is said, that if he misses his object, or is unexpectedly repulsed, he makes off, without repeating the attempt. He expresses his resentment in the same manner as the lion; moving the muscles and skin of his face, shewing his teeth, and shrieking in the most frightful tone: his voice, however, is very different from that of the lion; being rather a scream than a roar.

The female produces four or five young at a litter; and, although furious at all times, upon this occasion she exceeds her usual rapacity. If her young be taken from her, she pursues the spoiler with incredible rage: he, in order to save a part, drops one of her cubs, with which she immediately returns to her den, and again pursues him; he then drops another, and by the time she has returned with that, he generally escapes with the remainder; but if the tigress be robbed of her whole family, she becomes perfectly infuriate, boldly approaches even the towns themselves, and commits incredible slaughter.

The skins of these animals are held in high estimation all over the East; particularly in China. In Europe, however, they are but seldom met with, and not so highly prized; being deemed much inferior to those of the panther and leopard.

THE PANTHER.

Of all this tribe, whose skins are so beautifully spotted, and whose natures are so mischievous, this animal may be considered as the foremost. He is from five to six feet in length, measuring from the nose to the tail. His colour is, in general, of a bright tawney yellow, elegantly marked with black spots, disposed in circles of four or five each, with a single spot in the centre; his chest and belly are white. The ears of this animal are short and pointed; his eyes fierce and restless; and his aspect remarkably ferocious.

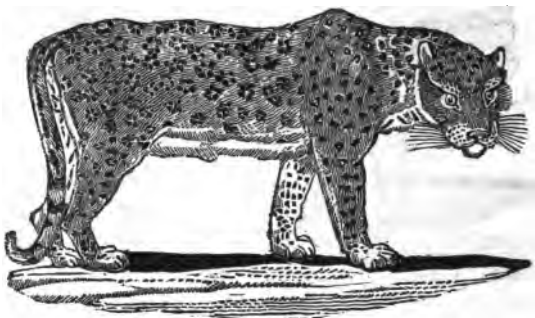
It is said to prefer the flesh of animals to that of men; but when pressed by hunger, it makes its attacks without discrimination. The general mode of taking its prey is by surprise, either lurking in thickets, or creeping on the ground until it comes within reach; and as it is capable of climbing trees with tolerable facility, neither the monkeys nor other small animals are secure from its insidious attacks.

Panthers appear to have been very numerous in the time of the Romans, and at present the species is said to extend from Barbary to the remotest parts of Guinea.

THE COUGAR.

THIS animal is similar to the tiger, but of a different colour, being of a deep brown, rather darker on the back, but inclining to white on the lower part of the belly. He is a native of America, and a very destructive animal. The Indians hunt him for the sake of his skin.

THE LEOPARD.



THIS animal is about four feet in length, exclusive of the tail, which commonly measures two feet and a half. It has a much more beautiful coat than the panther, the yellow being more brilliant, and the spots not disposed in rings, but clusters. It is a native of Senegal, Guinea, and the interior parts of Africa; and is also found in some parts of China, and among the mountains of Caucasus, from Persia to India.

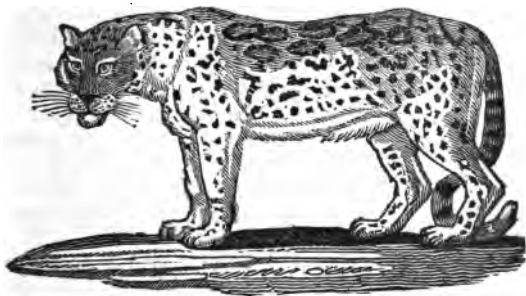
These quadrupeds are naturally very ferocious, and attack, without distinction, every thing they meet, sparing neither man nor beast. They seem to delight in the most impervious forests, but when they cannot obtain a sufficient supply there, they come out from their lurking places, and commit dreadful ravages among the flocks which are feeding on the plains.

THE JAGUAR.

THE jaguar, or panther of South America, is about the size of a wolf; is marked on the upper parts with streaks of open oblong spots, or patches; the top of the back with long interrupted stripes, and the sides with rows of regular open marks; the thighs and legs are variegated with black spots without central spaces. His disposition, like that of the panther or leopard, is fierce and sanguinary; and he is justly considered as one of the most formidable quadrupeds of the new continent.

THE OCELOT.

THE ocelot, otherwise called the tiger-cat, or catamountain, is an American quadruped, about two feet and a half in length, from the nose to the insertion of the tail. Its formation nearly resembles that of a cat; but its tail is proportionably shorter, and its robe more beautifully variegated. The fur is of a reddish hue, adorned with black spots and streaked, of an oblong figure on the back and sides, and round on the belly and paws. This animal is said to be very ferocious, and to prefer the blood of its victims to the flesh.

THE OUNCE.

THE ounce, or onca of Linnæus, is considerably less than the panther, seldom exceeding three feet and a half in length; however, its hair is much longer than that of the panther, and its tail still more so. The colour of the ounce is also apparently different, being of a light grey,

tinged with a yellow cast; but the arrangement of the spots in both animals is much alike.

The disposition of the ounce appears to be more mild and tractable than other animals of the panther kind; and in fact, it is employed all over the East for the purpose of hunting. When the game appears, he is shewn where it lies; upon which the fierce creature darts like an arrow to seize it; but should he miss it, he remains perfectly motionless, having no means of finding the object of its pursuit by the scent.

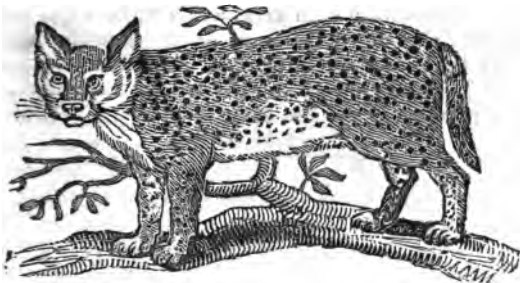
THE LYNX.



THE lynx differs from the panther kind in its tail, which is at least half as short in proportion, and black at the extremity; its fur is much longer, and the spots on the skin less livid, and confusedly mingled with the rest; its ears also are remarkably longer, and tipped at the points with a black tuft of hair; the colour round the eyes is white, and the physiognomy more placid and gentle than in most of the panther tribe. This quadruped is not above the size of the ounce, but is rather stronger built.

It climbs the highest trees of the forest, and conceals itself among the branches, in order to watch for weazels, ermines, squirrels, and other animals. It also commits great devastations among the flocks, and frequently destroys great numbers of hares and fallow-deer. It is found in all the northern parts both of the old and new continents; but is seldom seen in warm, or even temperate countries.

THE SERVAL.



THE serval is a beautiful quadruped, resembling the panther in its spots, but the lynx in the shortness of its tail, in its size, and in its strong built form. It is seldom seen on the ground; but lives chiefly in trees, where it makes its nest and breeds its young.

THE CARACAL.

THE caracal resembles the lynx in size, in form, and even in the singularity of being tufted at the tips of the ears; but its hair is rougher and shorter, its tail is rather longer, its muzzle more lengthened, and its nature and physiognomy more savage. It exists only in hot climates; where it generally attends the lion, the ounce, and the panther, and subsists almost entirely on the refuse of their prey.

THE WILD CAT.



THE wild cat is somewhat larger than the domestic, and the length of its fur gives it an appearance of greater magnitude than it really possesses; its head also is bigger, its

face flatter, and its teeth and claws much more formidable. The general colour of these animals is a yellowish white, diversified with a deep grey, and disposed like the streaks on the skin of a tiger, pointing from the back downwards; the hips and hind part of the lower joints of the legs are invariably black, and the tail is marked with alternate bars of black and white.

THE DOMESTIC CAT.



THIS is the only quadruped of its kind which has been taken under human protection, and is, in fact, the only one whose services can more than recompence the trouble of its education, and whose strength is not sufficient to render its anger formidable.

There is no animal more pleasingly playful than this, when young, but as its age increases, it seems gradually to lose its sportive habits, and the innate treachery of its kind is then seen to prevail. From being naturally ravenous, education teaches it to disguise its appetites, and to watch a favourable moment for seizing its prey. Supple, artful, and insinuating, it conceals its intentions till it can put them into execution; and when the opportunity offers, it at once seizes upon whatever it finds, flies off with it, and remains at a distance till its offence may be forgotten. The form of its body and its temperament, corresponds with its disposition: active, cleanly, delicate, and voluptuous, it loves ease, and seeks the softest cushion to lie on.—The female goes with young fifty-six days; produces about four or five at a time, and feeds them with her milk, and whatever small animals she can take by surprise.

THE HORSE.

Of all quadrupeds, those of the horse kind merit a distinguished place in natural history. Their beauty, strength, activity, and usefulness, all contribute to render them the principal objects of our curiosity and attention; a race of creatures in whose welfare we are peculiarly interested.

It is not easy to ascertain from what country the horse came originally. We must look for him, however, in a true state of nature, in the extensive deserts of Africa, in Arabia, and in those vast tracts of country which form a kind of boundary between Tartary and the more southern nations. Numerous herds of these animals are seen wild among the Tartars; they are of a small breed, remarkably fleet, and very capable of eluding their most vigilant pursuers. They will not admit a strange animal, though of their own kind, into their herd; but on a tame horse attempting to associate with them, they instantly surround him, and compel him to provide for his safety by a precipitate flight.

But the English horses are now become superior to those of every other part of the world, for size and beauty; and are capable of performing what no others ever could attain to. By a judicious mixture of the several kinds, by a happy difference of our soils, and by our superior skill in management, they are known to excel the Arabian in size and swiftness; to be more durable than the Barb, and more hardy than the Persian. An ordinary racer is known to go at the rate of a mile in two minutes, and we

had an instance, in the famous Childers, of still greater rapidity. He has frequently been known to move above eighty-two feet and a half in a second, or almost a mile in one minute; and he has run round the course at New-market, which is very little less than four miles, in six minutes and forty seconds.

THE ASS.



THIS animal is much more hardy than the horse, is liable to fewer diseases; and of all the quadrupeds covered with hair, he is the least subject to vermin; probably owing to the hardness and dryness of his skin. He is three or four years in coming to perfection, and lives till twenty or twenty-five; he sleeps much less than the horse, and never lies down for that purpose, unless greatly fatigued. The female goes about eleven months with young, and never produces more than one foal at a time.

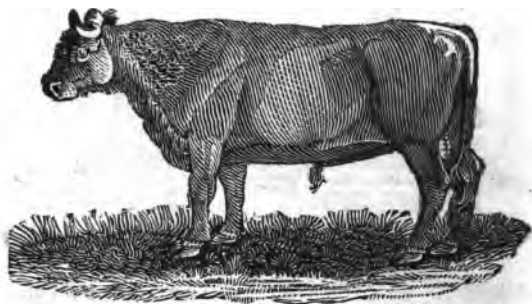
When very young, the ass is sprightly, and even tolerably handsome; but he soon loses these qualifications, either by age or ill treatment, and becomes slow, stupid, and headstrong. The female is passionately fond of her young, and it is said that she will cross fire and water to protect or rejoin it. The ass is sometimes greatly attached to its owner; whom he scents at a distance, and plainly distinguishes from others in the crowd. When overloaded, he shews his sense of his master's injustice, by hanging down his head and lowering his ears; and when too hard pressed, he opens his mouth, and draws back his lips, in a very disagreeable manner. He walks, trots, and gallops like a horse; but, though he sets out freely at first, he is soon tired, and then no beating will make him mend his pace.

THE MULE.

THE mule is an animal between the horse and the ass, and though inferior to the former in beauty and speed, is justly esteemed for the security of its feet. It is very serviceable in carrying burthens; particularly in mountainous and rocky countries. This animal does not propagate; but is longer-lived than either the horse or ass,

THE ZEBRA.

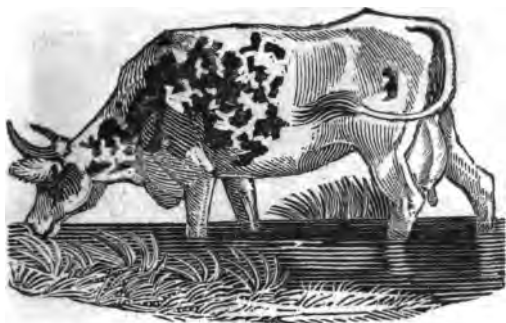
THE zebra is the most beautiful, through the wildest animal in nature. Nothing can exceed the delicate regularity of its colour, nor the lustrous smoothness of its skin; but, on the other hand, nothing can be more timid or untameable. It is chiefly found in the southern parts of Africa; and whole herds are often seen grazing in those extensive plains that lie near the Cape of Good Hope.

THE BULL.

Of all animals, those that ruminate, or chew the cud, are the most harmless and the most easily tamed; for as they live entirely upon vegetables, they have no interest in making war upon any other tribe of the brute creation: content with pastures in which they are placed, they seldom desire to change, while they are furnished with a proper supply; and fearing nothing from each other, they generally associate in herds, for their mutual security.

The foremost of this species is the bull, which stands full as high as the horse, but is much stronger in all parts of his body, particularly about the neck and head; the latter is adorned with strong thick horns; and when enraged, he gores and tosses both man and beast. This animal is very short lived for its size and strength, seldom exceeding sixteen years. He arrives to the greatest perfection in England, the climate and verdure of our plains best agreeing with his constitution.

The pains taken by the English nation to bring their horned cattle to perfection, have been attended with complete success; for by mixing them with foreign breeds, they have increased their beauty as well as their strength. The Lincolnshire breed, so famous for their size, derive their perfection from those of Holstein; and the large horned cattle that are bred in some parts of England, were originally imported from Poland. Our graziers now generally endeavour to mix the large Holstein with the small northern kind; and from both results that fine milch breed, which excels the cattle of every other part of the world.

THE COW.

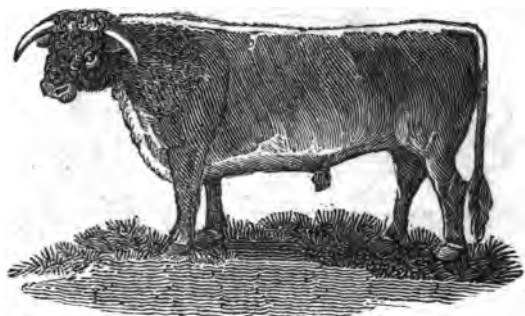
THIS animal is something like the bull in respect to size and nature, of which she is the female; but of all quadrupeds, she seems most liable to alteration from the quality of her pasture; and this is more observable in other countries than in our own. Thus Africa is remarkable for the largest and the smallest cattle of this kind, as are also Poland, Switzerland, and several other parts of Europe. Among the Eluth Tartars, where the pastures are remarkably nourishing and luxuriant, the cow becomes so large, that few men can reach the tip of its shoulders: but in France, where the animal is stinted in its food, and driven from the richest pasturage, it greatly degenerates.

The cow has seldom more than one calf at a time, and goes about nine months; her nature and use being so well known we decline a further description.

THE ZEBU.

THE zebu, or Barbary cow, is somewhat like the bison, having a lump on its shoulders, which weighs from twenty to forty pounds. They are frequently saddled like horses, and are likewise used in drawing chariots, carts, &c. Instead of a bit, a ring, or small cord, is passed through the cartilage of the nostrils, which is tied to a larger cord, and serves as a bridle.

THE OX.



THIS creature likewise resembles the bull; is of a sluggish nature, very strong, yet gentle; of great use in husbandry, such as drawing the plough, waggon, cart, &c. His flesh is excellent food; his hide is made into leather for several uses. There are oxen in all parts of the world; those of Egypt, about the river Nile, are as white as snow, of exceeding high stature, yet so meek and gentle, that they are easily governed by men.

THE URUS.

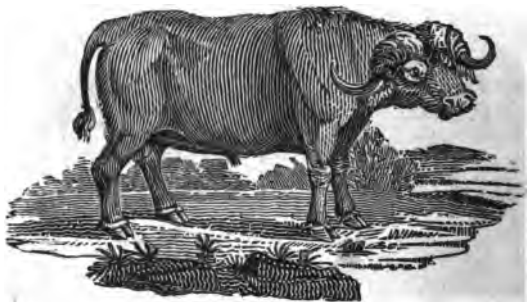
THE urus, or wild bull, is chiefly found in Lithuania, and grows to a size that scarcely any animal except the elephant is found to equal. Its colour is a fine black, excepting a stripe mixed with white, which runs along the back in a direct line from the head to the tail. The horns are short, thick, and long; and the eyes fierce and fiery; the forehead is adorned with a kind of garland of curled hair, and some have beards of the same; the neck is short; and the skin has an odour of musk. The female, though smaller than the male, exceeds the largest of our bulls in size; yet her udder and teats are scarcely perceptible. Upon the whole, this animal resembles the tame one, except in some trifling varieties, which its state of independence, or the luxuriance of its native pastures, may have produced.

THE BISON.

THE bison, which is another variety of the bull kind, differs from the rest in having a hump between the shoulders. At first view, this animal exhibits somewhat of the appearance of a lion; having a small head, red fiery eyes, a furious aspect, a long shaggy mane, and a beard under his chin. The forehead is very broad; and the horns are placed so far asunder, that three men might sit between them: on the middle of the back is a lump, almost as high as that of the camel, and considered by the Indians as a most delicious article of food.

These animals are so wild and ferocious, that there is no pursuing them with safety, except in forests where there are trees large enough to conceal the hunters; they are, therefore, generally taken in pit-falls, covered with boughs of trees and grass, where they are easily overcome and slain. They commonly range in droves, feeding in the open savannahs morning and evening: and reposing during the sultry part of the day on the shady banks of rivulets or streams of water. Sometimes they leave so deep an impression of their feet in the moist sand, as to be thus traced and shot by the Indians; but on these occasions, the utmost precaution is requisite; since their sense of smelling is extremely acute, and when slightly wounded, they become perfectly infuriate.

Bisons, however, may easily be made subservient to the will of man, and, such is their expertness and docility, even bend their knees to take up or set down the burdens they are employed to carry.

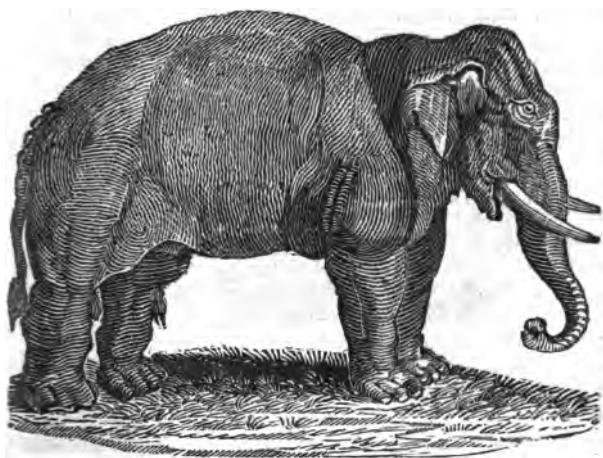
THE BUFFALO.

IF we compare the shape of our common ox with that of the buffalo, no two animals can be more nearly alike; both are equally submissive to the yoke, and are employed in the same domestic services; yet such is their natural antipathy to each other, that were there but one of each kind, the race of both would probably become extinct.

The buffalo, upon the whole, is by no means so beautiful an animal as the ox; the figure is more clumsy and awkward, the limbs less fleshy, and the tail more naked of hair; the head is smaller, the aspect wilder, and the horns have a bunch of black hair hanging down between them. The flesh is also black, ill flavoured, and of a disagreeable smell.

The milk of these quadrupeds, though very inferior to that of our cows, is produced in large quantities; and in warm countries, it is made into butter and cheese; the veal of the young animal is not better eating than the flesh of the old; and, in fact, the hide of the buffalo seems to be the most valuable thing he furnishes; as the leather made of it is justly famed for its thickness, softness, and impenetrability.

Although these animals are principally found in the torrid zone, they are also bred in several parts of Europe, particularly in Italy, where they constitute the food and the wealth of many of the lower classes. In general they are tolerably inoffensive; but when wounded or otherwise exasperated, they tear up the earth with their fore feet, bellow more terribly than the bull, and make at the object of their resentment with ungovernable fury.

THE ELEPHANT.

THE elephant is seen from seven to fifteen feet high; and at first view, presents the spectator with an enormous mass of flesh, that seems scarcely animated. Its huge body, covered with a callous hide, without hair; its large misshapen legs, that seem scarcely formed for motion; its little eyes, pendulous ears, and long trunk, all concur to give it an air of extreme stupidity. But our prejudices soon subside on examining its history; and our astonishment is excited while we consider the various advantages it derives from so clumsy a formation.

The eyes of this animal are very small, when compared with the enormous bulk of the body; but though their minuteness may at first appear deformed, on a more careful examination they are seen to exhibit a variety of expression, and to discover the various sensations by which they are moved.

The elephant is not less remarkable for the excellence of its hearing.—Its ears are extremely large, and usually pendent; but can be raised and moved with perfect facility, and serve to wipe the animal's eyes, as well as to protect them from flies, dust, and other annoyances. It appears delighted with music, and readily learns to move in measure, and even to join its voice to the sound of the drum or trumpet.

This quadruped's sense of smelling is not only exquisite, but it is, in a great measure, pleased with the same odours that delight mankind. The elephant gathers flowers with great pleasure and attention, unites them into a nosegay, and seems charmed with their perfume.

But it is in the sense of touching that this animal excels all others of the brute creation, and perhaps even man himself. The organ of this sense lies wholly in the trunk, which is, properly speaking, only the snout lengthened out to a great extent, hollow like a pipe, and terminating in two openings, or nostrils, like those of a hog. This fleshy tube is capable of being moved in every direction; and at the very point of it, just above the nostrils, there is an extension of the skin, in the form of a finger, and which, in fact, answers all the purposes of one; for, with the rest of the extremity of the trunk, it is capable of assuming different forms, and consequently of being adapted to the minutest objects. By means of this, the elephant can take a pin from the ground, untie the knots of a rope, unlock a door, and even write with a pen. Hence this instrument appears to be useful in most of the purposes of life; it is an organ of smelling, of touching, and of suction; and not only conduces to the animal's comforts, but also serves for its ornament and defence.

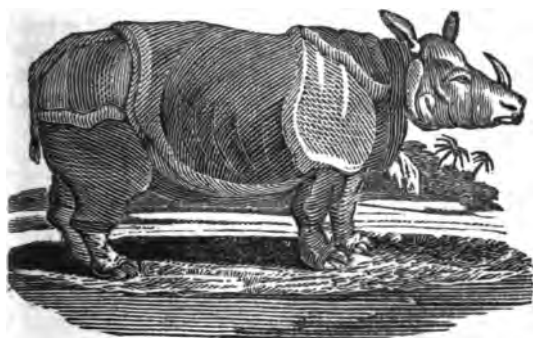
The enormous tusks of this animal, being unserviceable for chewing, may be considered only as weapons of defence. They are two in number, proceeding from the upper jaw, and become so extremely heavy as the animal grows old, that it is sometimes obliged to make holes in the sides of its stall, to rest them in, and ease itself of the fatigue of their support.

It is worthy of remark, that although the elephant is the strongest as well as the largest of quadrupeds, in a state of nature it is neither fierce nor formidable. Mild, peaceable, and brave, it never abuses its power, and only uses its strength for its own protection, or that of its community. In its native deserts, the elephant is rarely seen alone, but appears to be a friendly social creature. The oldest of the company conducts the band; that which is next in seniority brings up the rear; the young, the weak and the sickly, fall into the centre.

When once taken from the forest and brought under the dominion of man, the elephant becomes the most gentle and obedient of all animals. It soon conceives an attachment for the person that attends it; caresses him, obeys

him, and even seems to anticipate his desires. All its motions are regulated, and its actions seem to partake of its magnitude; being grave, majestic, and secure. It is quickly taught to kneel down, to receive its rider. It suffers itself to be arrayed in harness; and draws either chariots, cannon, or shipping, with surprising perseverance and docility; provided that it be not beaten without a cause, and that its master appears pleased with its exertions; otherwise, if ill treated, he becomes furious and destructive.

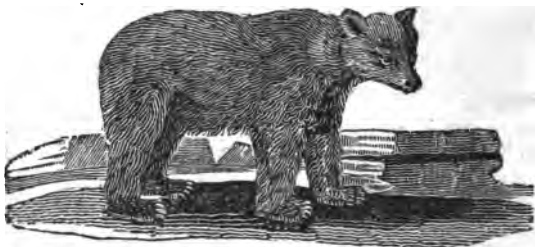
THE RHINOCEROS.



THE rhinoceros is usually found about twelve feet long, and from five to seven feet high, and the circumference of its body is nearly equal to its length. It is difficult to convey an accurate idea of this animal's shape, and yet there are few so remarkably formed. Its head is furnished with a hard and solid horn, projecting from the snout, sometimes above three feet in length; and were it not for this, that part would resemble the head of a hog; the upper lip, however, is much longer in proportion, and very pliable, serving to collect its food, and deliver it into the mouth: the ears are large, erect, and pointed, and the eyes small and piercing. The skin is naked, rough, and so extremely thick and hard, as to turn the edge of a scimitar, or to resist a musket ball; it is of a dirty brown colour, and lies upon the body in folds, after a very peculiar manner. The belly hangs low; the legs are short, strong, and thick; and the hoofs are divided into three parts, each pointing forward.

It is worthy of remark, that the horn of this quadruped is a truly formidable weapon, growing from the solid bone, and pointed so as to inflict the most fatal wounds. The elephant, the bear, and the buffalo, are obliged to strike transversely with their weapons; but the rhinoceros employs all his force with every blow; so that the tiger will more willingly attack any other animal of the forest, than one whose strength is so justly employed.—There is another animal of this kind, named the double-horned rhinoceros, which differs from the preceeding animal in the appearance of its skin; which, instead of large and regularly-marked folds, resembling armour, has merely a slight wrinkle across the shoulders and on the hinder parts, with a few fainter wrinkles on the sides; so that, when compared with the common rhinoceros, it appears almost smooth. The principal distinction, however, consists in the nose being furnished with two horns, one of which is smaller than the other, and situated above it.

THE BEAR.



Of this animal, there are three different kinds, the brown bear of the Alps; the black bear of North America, which is smaller; and the great Greenland, or white bear. These however, are all probably of the same original, and principally owe their variations to food and climate; as they have all the same habitudes. Their voice is a sort of growl interrupted with rage; and they are equally carnivorous, treacherous, and cruel.

The brown bear is a solitary animal, inhabiting the most horrid chasms and dangerous precipices, and frequently choosing for its abode the hollow of some tree; there it

lives for some months in the winter without provisions, seeming to exist on the exuberance of its former flesh, which it had acquired in the summer. The female generally prepares a bed in the hollow of a rock, and brings forth in winter.

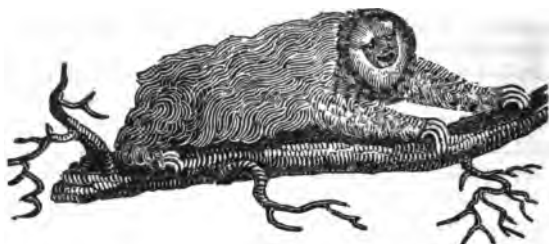
The black bears are common in Canada ; and inhabit those trees which are hollow at the top ; but when hunted, are forced from their retreats by setting fire to the tree ; by which means the old one generally issues out first, and is shot by the hunters ; and the young ones, as they descend, are caught in a noose, and are either kept, or killed for provision. Their hams and paws are considered a great delicacy.

The white, or Greenland bear, differs greatly both in figure and dimensions from those already mentioned ; and though it preserves, in general, the external form of its more southern kindred, yet it grows to nearly three times the size. They principally live on fish, seals, and dead whales ; they seldom remove far from the shore ; sometimes, however, they are seen, on ice floats, several leagues at sea, and are often transported in this manner to Iceland ; where they no sooner arrive than all the natives are in arms to receive them.

THE COATIMONDI.



THE first peculiarity observable in this animal is the extreme length of its snout, which in some measure resembles that of the hog, but elongated to a certain degree ; the upper jaw is an inch longer than the lower ; and the nose turns up at the end. The tail is marked with rings of black, and the body is covered with a short fur. When it sleeps it rolls itself into a lump, and often remains immoveable for fourteen or fifteen hours together.

THE SLOTH.

THE look of this animal is so piteous as to excite compassion; and is also accompanied with tears, that dissuade every one from injuring so wretched a being. It has three claws upon each foot, and a short tail. Its fur is long and coarse, somewhat resembling dried grass; the mouth extremely wide; the eyes dull and heavy; and the legs and feet set on so awkwardly, that a few paces often require a journey of a week. The legs indeed proceed from the body in such an oblique direction, that the sole of the foot seldom touches the ground. When, therefore, the animal is compelled to make a step forward, it scrapes on the back of the nails against the surface, and wheeling the limb circularly about, yet still touching the ground, it at length places its foot in a progressive position; the other three limbs are brought about with the same difficulty, and thus seldom moves above three feet in an hour. In fact, it seldom attempts to change its place but by constraint, or when impelled by the severest stings of hunger.

The sloth subsists entirely upon vegetable food, and, as it requires a considerable share of provision, it generally strips a tree of all its verdure in less than a fortnight. It then falls to devouring the bark, and thus in a short time, destroys the very source of its support. When this is the case, being unable to descend, it is obliged to drop from the branches to the ground; and after remaining some time torpid, from the violence of its fall, it prepares for a tedious, dangerous, and painful migration to some neighbouring tree, which is soon killed like the former. Its power of abstinence is very remarkable, and the strength of its feet so great, that whatever it seizes on, cannot possibly be freed from its claws.

The two-toed sloth differs from the preceding animal in having only two claws upon the fore feet; the snout also is longer, the fur very different, and the ribs more numerous; this having forty-six, while the other has but twenty-eight. Both, however, resemble each other in the general outlines of their figure, and their helpless and awkward formation. Their appetites and habitudes are also precisely the same.

THE CAMEL.



THE height of this animal is, in general, about six feet, and the body is covered with dusky, or ash-coloured hair. It has a short head, small ears, and a long bending neck; and is rendered remarkable not only by the lumps on its back, but by large callosities at the bottom of the breast, on the knees, and on the inside of each leg. The feet are flat and tough, divided above, but not quite through; which formation enables the animal to traverse the oriental and sandy deserts, without being subject to chaps in the hoof.

In Arabia and other countries, where the camel is trained to useful purposes, it is considered as a sacred animal, without which, the natives could neither traffic, travel, nor subsist; its milk forms a considerable part of their nourishment; they clothe themselves with its hair, which is shed regularly once a year; and on the approach of enemies, they may, by mounting their camels, flee to the distance of a hundred miles in a single day. It must also

be observed that these quadrupeds are so extremely temperate, and capable of such long abstinence, that in those vast deserts—where the earth is every where dry and sandy—where there are neither beasts nor birds, neither insects nor vegetables, they post forward without requiring either drink or pasture for five or six days together. This, however, partly results from the mode of bringing them up, and partly from the circumstance of their being furnished with an additional stomach, which serves as a reservoir, to hold a greater quantity of water than is needful for a present supply.

THE LAMA.



THIS animal, which may be considered as the camel of the new continent, is somewhat more than three feet high, and the neck is three feet long; the head is small and well proportioned, the eyes large, the ears about four inches long, and the tail small, and rather curved at the end. The body is covered with a kind of wool, which is short on the back, but long on the sides and belly: the colour is generally brown, but in some varieties it is black, and in others perfectly white.

Though inferior to the camel in size, strength, and perseverance, the lama appears admirably suited for the indolent race of masters which it is obliged to serve. It requires neither care nor expence in the attending or providing for its sustenance: it is supplied with a warm covering, and therefore does not require to be housed;

satisfied with grass and other vegetables, it wants neither corn nor hay; and of all creatures it seems to require water least; being supplied by Nature with such quantities of saliva, that it spits it out on every occasion. This indeed, seems to be the only offensive weapon that the lama has to testify its resentment. When overloaded, or exhausted by fatigue, and driven on by the inhumanity of its keeper, it falls on its belly, and emits against him a quantity of this fluid, which the Indians assert will either burn the skin, or cause very dangerous eruptions.

The variety of the lama called Paco, is smaller and weaker, but endued with the same nature. Its wool is very valuable, and is formed into quilts, carpets, &c. which exceed those from the Levant.

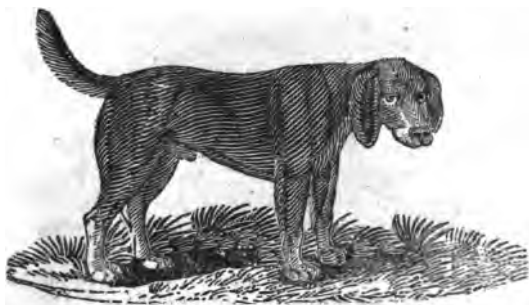
THE DROMEDARY.



THE appellations dromedary and camel have subsisted time immemorial; they do not, however, make two distinct kinds, but are only given to a variety of the same animal. The principal differences are, that the dromedary has but one hump upon the back, whereas the camel has two, and the former quadruped is inferior in size and strength to the latter; seldom carrying more than six or seven hundred weight, while on the other hand, this can carry a thousand. Of the two varieties, the dromedary is the most numerous: its manners, dispositions, and habits, have been already described in the history of the camel.

THE CAMELEOPARD.

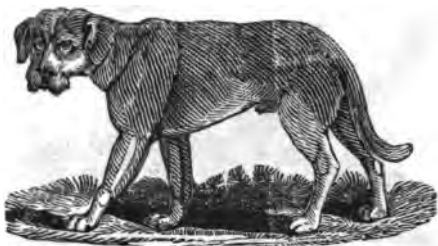
IT is no easy matter to form an adequate idea of this quadruped's size, and the singularity of its formation. It exhibits in some measure the slender shape of the deer, or the camel, but is destitute of their symmetry, or their easy power of motion. The head resembles that of the deer, armed with two round horns; its neck is like that of a camel; and its legs and feet resemble those of the deer, but with this remarkable difference, that the fore legs appear to be nearly twice as long as the hinder; this however, is merely occasioned by the extraordinary height of the shoulders, compared with the thighs. The tail is round, and tapering towards the end, where it terminates in a tuft of long hair. Its height, when full grown, from the fore feet to the top of the head, is about seventeen feet; the skin is beautifully spotted with brown upon a whitish ground; and when the animal is standing still and viewed by a spectator in front, it resembles the trunk of a withered tree; the hinder parts being entirely concealed. Its gait in walking is neither awkward nor unpleasing, but it has a ridiculous kind of trot. Its defence is in its heels, and its kicks are so extremely rapid, that they are sufficient to defend it against the lion, though not to repel the impetuous attack of the leopard, or the tiger. Like all other horned and cloven-footed quadrupeds, it ruminates and feeds entirely upon vegetables; but its favourite food is the leaf of a tall kind of sensitive plant, peculiar to the interior of Africa.

THE BLOOD-HOUND.

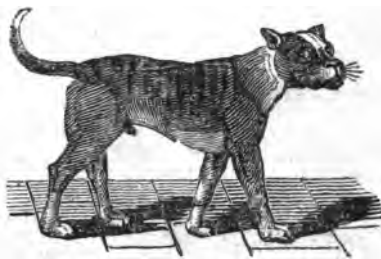
OF all carnivorous quadrupeds, the dog kind must indisputably claim the preference; being the most intelligent, courageous, and domestic attendant on man. They are principally distinguished by their claws, which have no sheath like those of the cat kind, but continue at the point of each toe, without a capability of being stretched forward, or drawn back. The nose also is longer than in the cat kind; and the body is in proportion more strongly made, and covered with hair instead of fur. The variety of these animals, through mixed breeds, is great.

More docile and obedient than any other animal, the dog is not only easily instructed, but also conforms to the dispositions and manners of those who command him. Always assiduous in serving his master, and only a friend to his friends, he is indifferent to the rest. Constant in his affections, friendly without interest, and much more mindful of benefits than injuries offered, he is not driven off by unkindness, but even licks the hand that has been just lifted to strike him, and eventually disarms resentment by submissive perseverance.

The foremost of this tribe is the blood-hound, a dog of great utility, and in high esteem among our ancestors. Its employ was to recover any game that had escaped wounded from the hunter, or had been stolen out of the forest; but it was still more serviceable in hunting thieves and robbers by their foot-steps: but being of a ferocious and blood-thirsty disposition, they are prohibited.

THE MASTIFF.

THE mastiff is nearly the size of a Newfoundland dog; remarkable for its strength and fierceness. It is chiefly used for guarding houses, especially in country places, against thieves and robbers; and sometimes by drovers, and often for baiting of beasts.

THE BULL DOG.

THE bull-dog is much less than the mastiff, but not inferior in fierceness. It has a pretty large head, neck, and breast. Those of a brindled colour are accounted the best of the kind. This creature will naturally run at, and seize the fiercest bull, without barking; running directly at his head, and sometimes catching hold of his nose, pin the bull to the ground; nor can he, without great difficulty, be made to quit his hold. Two of these dogs, let loose at once, are a match for a bull, three for a bear, and four for a lion.

THE TERRIER.

THE terrier is a small kind of hound, with rough hair; it has a most acute smell, and is generally an attendant on every pack of hounds. It is a most determined enemy of all the vermin kind; such as weasels, polecats, badgers, rats, mice, &c. It is fierce, keen, and hardy; and in its encounters with the badger, while forcing it from its holes, sometimes meets with very severe treatment, which it however bears with great courage and fortitude.

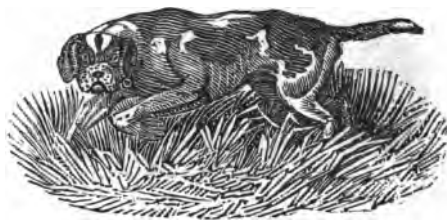
THE HARRIER.

THE harrier, as well as the beagle and the fox-hound, are used for hunting; as they have, of all other animals, the quickest and most distinguishing sense of smelling. A mixed breed, between this and the large terrier, forms a strong, active, and hardy hound, used in hunting the otter.—It is rough, wire-haired, thick-quartered, long-eared, and thin-shouldered. The properly breeding, matching, and training these dogs, make up the business of many men's lives.

THE COACH-DOG,

HAS been erroneously called the Danish dog; but for what reason it is difficult to ascertain, as its incapacity of scenting is sufficient to destroy all affinity to any dog employed in the pursuit of the game.

It is common in this country at present, and is frequently kept in genteel houses, as an elegant attendant on a carriage.

THE SPANISH POINTER,

Is of foreign origin, as its name seems to imply; but it is now naturalized in this country which has long been famous for dogs of this kind; the greatest attention being paid to preserve the breed in its greatest purity.

This dog is remarkable for the aptness and facility with which it receives instruction. It may be said to be almost self-taught; whilst the English pointer requires the greatest care and attention in breaking and training for the sport. It is chiefly employed in finding partridges, pheasants, &c.

THE SPANIEL.

THIS animal probably derived its name from Spain, where it might have acquired the softness of its hair. Its form is elegant, its hair beautifully curled or crisped, its ears long, and its aspect mild and sagacious; it receives instructions with readiness, and obeys with the most uncommon alacrity. There is another variety of this kind, called the slater, used in hawking, to spring the game; but is much inferior in speed and perseverance to the former.

THE WATER SPANIEL.

THE water-spaniel is a species formerly used in fowling. This animal seems to be the most docile of all the dog kind; and his docility is particularly owing to his natural attachment to man. Many other kinds will not bear correction; but this patient creature, though very fierce to strangers, seems unalterable in his affections; and blows and ill-usage seem only to increase his regard. This creature is well calculated for hunting of otters, ducks, &c. watching the stroke of the piece, and perceiving the game that is shot, he instantly swims after it, and brings it to his master.

THE ENGLISH SETTER



Is a hardy, active, handsome dog.—Its scent is exquisite; and it ranges with great speed and wonderful perseverance. Its sagacity in discovering the various kinds of game, and its caution in approaching them, are truly astonishing. But as the uses of this valuable dog are so well known, we will conclude with the following beautiful quotation from Somerville:—

“ When autumn smiles, all-beauteous in decay,
And paints each chequer'd grove with various hues,
My SETTER ranges in the new-shorn fields.”

THE SPRINGER



Is lively and pleasant; an unwearied pursuer of its game; and very expert in raising woodcocks and snipes from their haunts in woods and marshes, through which it ranges with amazing perseverance.

Of the same kind is that beautiful little dog, which, in this country, is well known under the appellation of *King Charles's dog*, the favourite and constant companion of that monarch, who was generally attended by several of them.—It is still preserved as an idle, but innocent companion.—Its long ears, curled hair, and web-feet, evidently point out its alliance with the more useful and active kind above mentioned.

THE GREYHOUND.



THE greyhound is well known at present, and was formerly held in such estimation, that it was the peculiar companion of a gentleman; who, in ancient times, was known by his horse, his hawk, and his greyhound. It has a long body, sharp head, full eye, long mouth, little ears, with thin gristles in them, a straight neck, and full breast; its fore and hind legs are long and straight; its ribs round, strong, and full of sinews, and taper about the belly. It is the swiftest of the dog kind, and easily trained for the chase when twelve months old. It courses by sight, and not by scent, as other hounds do; and is supposed to outlive all the dog tribe.

THE NEWFOUNDLAND DOG.

THE Newfoundland dog is a large handsome animal, with a remarkable benevolent and pleasing countenance, and is justly celebrated for its fond attachment to its master: it is also web-footed, and can swim with great ease and swiftness. This animal is highly prized by sea-captains for its utility in case of shipwreck.

This breed of dogs was originally brought from the country of which they bear the name, where their great strength and docility render them extremely useful to the settlers on their coasts, who use them in bringing down wood from the interior parts of the country to the sea-side. They are attended with no person to guide them; but after delivering their loading, they return with the empty sledge to the woods, and receive, in dried fish, &c. their reward.

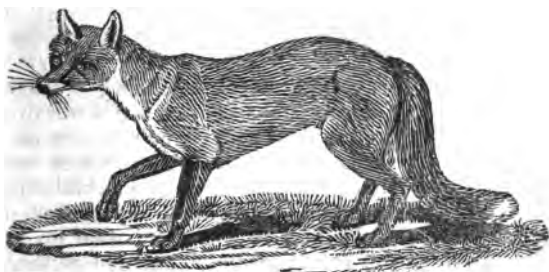
THE WOLF.

THIS animal, from the tip of the nose to the insertion of the tail, is about three feet and a half long, and about two feet five inches high. His colour is a mixture of black, brown, and grey; and his hair is extremely rough and hard, but mixed toward the roots with a kind of ash-coloured fur. The eyes open slantingly upwards, in the same direction with the nose, and the colour of the eye-balls is of a fiery green, which gives a fierce and formidable air to the whole visage.

The wolf is one of those quadrupeds, whose appetite for animal food is the most vehement, and whose means of satisfying his appetite are the most various; Nature having furnished him with strength, cunning, agility, and every requisite for pursuing, overtaking, and conquering his prey. Yet with all these advantages, he frequently dies of hunger; being obliged to fly from human habitations, and to live in the forest; where the wild animals either elude him by their art or swiftness, or are supplied in too small a proportion to satisfy his rapacity. He is naturally dull and cowardly; but when pressed by hunger, he braves danger, and even ventures to attack those animals which are under the protection of man; such as lambs, sheep, or even dogs themselves. If this excursion proves successful, he returns to the charge, until being wounded, or hard pressed, by the shepherds, or their dogs, he retires to the thickest part of the forest, content to pursue those smaller animals which, even when taken, afford him but a scanty supply. However, when his necessities are very urgent, he faces certain destruction: he attacks women and children, and sometimes ventures even to fall upon men; or, becoming furious by continual agitations, he ends his life in madness.

The female wolf goes with young about fourteen weeks, and generally produces five or six at a litter. These she suckles for some time, and teaches them betimes to eat flesh, which she prepares for them by chewing it first herself. She also frequently brings them young hares and birds while alive; which she tears into pieces, and distributes in equal shares. When the cubs are about six weeks, or two months old, their dam leads them to drink, at the trunk of some decayed tree, where the water has settled; or at some pool in the neighbourhood; but on the slightest appearance of danger, she conceals them in the first convenient place, or carries them back to their native den. It is not till they are ten or twelve months old, and until they have completed a new set of teeth, that she thinks them able to shift for themselves; but as they have, by this time, acquired arms from nature, and learned industry and courage from her example, she declines all future care of them.

THE FOX.



THE fox is of a slenderer make than the wolf, and not near so large; for as the former is above three feet and a half long, the latter is not above two feet three inches. The tail of the fox also is longer in proportion, and more bushy; its nose is smaller, and its hair much softer: but its eyes are situated obliquely, like those of the wolf, and its head is equally large in proportion to its size. It has a strong offensive smell, which is peculiar to the species, and which sometimes occasions the death of the hounds with which it is hunted; though some persons ignorantly suppose that it will keep off infectious diseases.

This animal has ever been famous for his cunning and his arts, and he partly merits his reputation. Without attempting to oppose either the dogs or the shepherds, without attacking the flock, or alarming the village, he finds an easier method of subsistence, and gains by his address what is denied to his strength or courage. He generally keeps his kennel at the edge of the wood, and yet within a short distance of some cottage. From thence he listens to the cackling of the fowls, scents them at a distance, makes an attack the first opportunity, and seldom returns without his booty. If he be able to get into the yard, he begins by levelling all the poultry, and carrying off a part of the spoil, hides it at some convenient distance, and again returns to the charge. Taking off another fowl in the same manner, he hides that also, but not in the same place; and this he practices for several times together, until the approach of day, or the noise of the domestics, give him warning to retire. In the same manner, when he finds birds entangled in springs laid for them by the fowler, he very expertly takes them out of the snare, hides them for three or four days, and knows very exactly when and where to return to avail himself of the hidden treasure. He also finds out birds' nests, seizes the partridge and the quail while sitting, catches the young hares and rabbits, before they have strength enough to escape him, and destroys a large quantity of game. In short, nothing that can be eaten seems to come amiss; for, when pressed by hunger, he will prey on rats, mice, serpents, toads, lizards, insects, and even vegetables; and those foxes that live near the sea-coasts are frequently known to subsist on shrimps, crabs, and other shell fish. The hedge-hog in vain rolls itself up into a ball, to oppose this determined glutton, and neither the wasp nor the wild bee are secure from his depredations; for though they compel him to retire for a few minutes, he soon rids himself of his opposers by rolling on the ground, and returns to the charge till he eventually compels them to abandon their combs to his voracity.

The she-fox produces but once a year, and seldom has more than four or five cubs at a litter. To these she is peculiarly attentive, and if she suspects that the place of their retreat has been discovered, or that her young have been disturbed during her absence, she removes them, one after another, in her mouth, and endeavours to find a place of greater security.

There is another animal called the *Isatis*, which nearly resembles the fox in the form of its body and the length of its tail; but the make of its head and the position of its eyes are more like those of the canine species; so that it seems placed between the dog and the fox. Its hair is softer than that of the common fox, and thick, tufted, and glossy; but its most striking peculiarity consists in its changing colour; being seen at one season of the year brown, and at another perfectly white. It is found in the mountainous regions of Norway, Lapland, and Siberia. It burrows like the fox, and is remarked for keeping its kennel very clean; it litters generally about May or June.

THE JACKAL.



THIS animal is about the size of a middling dog, resembling the fox in the hinder parts, particularly the tail, and the wolf in the fore parts, especially the nose. Its legs are shorter than those of the fox, and its colour is a bright yellow; whence it has been called, in Latin, the "golden wolf." It is an inhabitant of the warmer regions of Asia and Africa, and generally resides in woods, or rocky places.

The Jackal seems to be placed, in the scale of creation, between the wolf and the dog; as to the savage fierceness of the former it adds the impudent familiarity of the latter. Its cry is a howl mixed with barking, and a lamentation resembling that of human distress. These animals never go alone, but always in packs of forty or fifty together. They unite regularly every day, to form a combination against the other inhabitants of the forest; and nothing can escape them: for though content to take up

with the smallest quadrupeds, they have courage, thus united, to face the largest. They seem very little afraid of mankind; but pursue their game to the very doors; enter insolently into the sheepfolds, the yards, and the stables; and if they can find nothing else, they even devour harness, boots, or shoes, and run off with what they have not time to swallow.

Ever rapacious and insatiate, they not only attack the living, but scratch up the new-made graves, disinter the dead, and greedily devour them, however putrescent. In the uninhabited parts of the country, this animal frequently pursues during a whole night with unceasing assiduity; keeping up the cry, and at length, by great perseverance, tires down its prey; but just at the moment it supposes itself going to share the fruits of its labour, the lion or the leopard comes in, satiates itself upon the spoil, and leaves nothing to its unfortunate provider but the bare carcass.

THE HYÆNA.



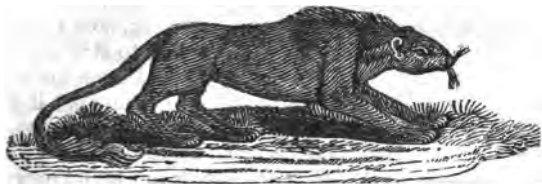
THE hyæna is about the size of a wolf, and at first sight, has some similitude to that animal; the head, however, is broader, the nose flatter, the ears longer, and the eyes not placed so obliquely, but more like those of a dog. The legs are longer than those either of the dog or the wolf, and different from all other quadrupeds, in having but four toes as well on the fore feet as on the hinder. Its hair is of a dirty greyish colour, marked with black waves down the body; and the head being generally held low, the back appears elevated, like that of the hog; with a long bristly band of hair that runs all along the top of it.

When receiving its food, the eyes of this fierce animal glisten, the bristles of its back stand erect, and its teeth appear; all of which give it a most frightful aspect, still further heightened by a tremendous howl. It is principally found in the most desolate and uncultivated parts of the torrid zone; where it resides in the clefts of the rocks, the excavations of the mountains, or in subterraneous dens that it has formed for its own accommodation. It subsists by depredation like the wolf, but is much stronger and more courageous. It frequently attacks men, carries off cattle, breaks open the sheep-cots by night, and even scrapes up the graves, in order to devour the bodies which they contain.

The spotted, or as it is sometimes called, the laughing hyæna, nearly resembles the former species, but is somewhat larger, and varies in colour, being of a light brown diversified with black spots. Its face and the upper part of its head are black, and the neck is furnished with an upright black mane. When food is shewn to it, or when interrupted in the act of eating, it utters a singular laughing kind of noise, by which it is also supposed to lure travellers in its native forests to their destruction.

These quadrupedes are said to inhabit several parts of Africa, and are particularly numerous in the vicinity of the Cape of Good Hope, where they frequently enter the huts of the inhabitants, and sometimes carry off the children.

THE ROMPO, OR MAN-EATER.



THIS animal is found in the interior of India and Africa, and its name arises from the manner of procuring its food, which it does by grabbing up human bodies from their graves. Its body is about three feet in length, and slender, with a long tail, tufted at the end; its head and mouth are like a jackall's, its ears like a man's, and feet like a bear's,

THE SHEEP.

As no two animals are to be found precisely the same, it is not to be expected that any two races should exactly correspond in every particular. The sheep and the goat apparently differ in the formation of their bodies, their covering, and their horns; and hence may be considered as two distinct kinds, with respect to all common and domestic purposes; but if we contemplate the exact similarity of their internal structure, together with the well-known fact of their frequently uniting and blending their race, we shall not hesitate to pronounce that they belong to one family.

The sheep, in its present domestic state, is, of all animals, the most inoffensive and defenceless; with its liberty it seems to have been deprived of its swiftness and cunning, and what in the ass might be called patience, in the sheep appears to be stupidity. Loaded with a heavy fleece, deprived of the defence of its horns, and rendered heavy, slow, and feeble, were it exposed to struggle with its natural enemies of the forest, it would soon be extirpated; it has therefore no other safety than what it finds in man, and is obliged to rely solely upon that art for defence, to which it originally owes its degradation.

This animal, in its domestic state, is too well known to require a detail of its peculiar habits, or of the methods which have been adopted to improve the breed. Suffice it, therefore, to observe, that no country produces finer sheep than England, either with larger fleeces or better adapted for the business of clothing. Those of Spain are confessedly finer, and we generally require some of their wool to work up with our own; but the weight of a

Spanish fleece is much inferior to one of Lincoln or Warwickshire.

Of the domestic kinds of sheep, besides our own, which are common in Europe, the first variety is to be seen in Iceland, Moscovy, and the coldest climates of the North. This, which may be called the Icelandic sheep, differs from our breed in the number of its horns; having four, six, or even eight, growing from different parts of the forehead; the wool also, is long, smooth, and hairy, and of a dark-brown colour.

The second variety is that of the broad-tailed sheep, so common in Tartary, Persia, Syria, and Egypt. This animal is only remarkable for its large and heavy tail, which frequently weighs from twenty to thirty pounds; and is obliged to be supported by a small kind of board fixed upon wheels. This tail the natives consider as a peculiar delicacy, and are therefore very careful of preserving it from injury.

The third observable variety is the Guinea-sheep, which are found in all the tropical climates, both of Africa and the East Indies. They are larger, swifter, and stronger than the common race; with a rough hairy skin, short horns, pendulous ears, and a sort of dew-lap under the chin. These, of all the domestic kinds, are best adapted for a precarious forest life; however, they seem to rely, like the rest, on man for their support and protection.

THE MOUFFLON.



THE moufflon, or musmon, which has all the marks of being the primitive race, is chiefly found in the deserts of Tartary, and the uncultivated parts of Greece, Sardinia,

and Corsica. Like the ram, it has the eyes placed near the horns; and in form, the two animals are nearly alike. The general colour of the hair is brown, approaching to that of the red-deer; but the inside of the thighs and the belly of a white, tinged with yellow. The horns frequently grow to a surprising size, and, in their convolutions, measure above two ells in length; with these they often maintain very furious battles between each other; and Gamelin asserts, they are sometimes found broken off in such a manner, that the small animals of the forest creep into the cavity for shelter. The moufflon upon the whole, seems better formed for strength and agility than the common sheep, and actually maintains itself, either by force or fleetness, against all the quadrupeds that subsist by rapine.

THE GOAT.



THIS animal seems, in every respect, better adapted for a life of savage independence than the sheep. It is naturally possessed of a greater share of instinct, and is considerably stronger, swifter, and more courageous. Lively, playful, and capricious, it does not easily submit to be confined, but chooses its own pasture; it delights in climbing precipices, and is often seen reposing in peaceful security upon an eminence overhanging the roaring ocean. Nature, indeed, has in some measure fitted it for traversing these declivities; the hoof being hollow underneath, with sharp edges, so that it could walk as securely on the ridge of a house as on level ground.

Sensible of kindness and caresses, the goat easily attaches itself to man ; and as it is a hardy animal, and very easily sustained, it is chiefly the property of the indigent. It seems indèed, better pleased with the heathy mountain, or the shrubby rock, than the cultivated field of art ; and its favourite food consists of the tops of boughs, or the tender bark of young trees. It is also capable of supporting immoderate heat, and is neither terrified by the storm, nor incommoded by the rain.

The milk of the goat is sweet, nourishing and medicinal, and not so apt to curdle upon the stomach as that of the cow. In several parts of Ireland and the highlands of Scotland, these animals constitute the chief riches of the hardy natives, and supply them with the few indulgencies their situation permits them to enjoy. They lie upon beds made of their skins, which are soft, clean, and wholesome ; they eat their milk with oaten bread ; and convert a part of it into butter and cheese. Thus, even in the wildest solitudes, where the landscape presents only a scene of rocks, heaths, and shrubs, the sons of indigence have their feasts and their little pleasures ; their faithful flock of goats attend them to these awful solitudes, and furnish them with all the necessaries of life ; while their remote situations happily keeps them ignorant of greater luxury.

THE STREPSICEROS



THIS animal is bred in Crete, and is not unlike our common goat, its horns excepted, which grow and shoot straight forward, curling like a wreath. This creature is about the size of the hart, having likewise red hair.

THE CHAMOIS.

THIS animal, so justly admired for its elegance and bounding vivacity, is to be found only in rocky and mountainous places, and particularly abounds in Dauphiny, Piedmont, Savoy, Switzerland, and some parts of Germany. It is about the size of a domestic goat, but its hair is like that of a doe; this, in spring, is of an ash colour, but changes in autumn, to a dun, inclining to black, and in winter, becomes a dark brown. The head is furnished with two beautiful black horns, rising from the forehead, almost between the eyes, and bending backward in a graceful circle, near the extremities; the ears are placed in a very elegant manner near the horns; and the eyes are round, sparkling, and strongly expressive of the animal's warmth of constitution. The flesh of the chamois is well tasted, and a single animal is sometimes known to yield ten or twelve pounds of suet, which is very superior to that of the goat.

These quadrupedes are naturally peaceable and sociable; being found in flocks of from four to eighty or a hundred, dispersed upon the crags of the mountains. The large males, however, are generally seen feeding detached from the rest, except during the season of love, which is from the beginning of October to the end of November.

When alarmed, the chamois makes a hissing noise with such force, that the surrounding rocks and forests re-echo to the sound; the note being very sharp at first, and becoming deeper towards the close. Having paused a moment, the animal looks round, and perceiving its apprehensions to be well founded, it resumes its hissing, with increasing violence; at the same time striking the ground with its fore feet, bounding from rock to rock, and evinc-

ing the utmost agitation, till the alarm is spread to a very considerable distance, and the whole flock provide for their safety by a precipitate flight.—The hissing of the male is much louder than that of the female; it is performed through the nose; and is, strictly speaking, no other than a very strong breath driven violently through a small aperture.

Heat is so extremely disagreeable to these animals, that they are never seen during summer, except in the excavations of the rocks, amidst fragments of unmelted ice, or under the shade of those rough and hanging precipices, which face the North, and effectually keep off the rays of the sun. They drink but sparingly, and chew the cud in the intervals of feeding.

THE IBEX.



THIS animal is now generally considered as the original stock from which the common goat is derived. It is clothed with a thick warm coat of brown hair; a streak of black runs along the top of the back; and the belly and hinder part of the thighs are of a fawn colour.

The ibex is very strong, and, when close pressed, will sometimes turn upon the incautious huntsman, and tumble him down the precipices, unless he has time to lie down, and let the creature bound over him. And if the pursuit be continued, this animal will throw itself down the steepest declivities, and fall on its horns in such a manner, as to remain unhurt.—It is principally found on the Alps, the Pyrenees, and the highest mountains of Greece.

THE STAG.

THE quadrupeds of this tribe have solid and branched horns, which are renewed every year, and when young, are clothed with a fine velvety skin, which falls off when they have attained their full size. They are extremely active, inhabiting woods and sequestered situations; and in fighting, they not only make use of their horns, but stamp furiously with their fore feet.

Beginning with the stag, which is one of those innocent and peaceable animals that seem formed to embellish the forest, and animate the solitudes of nature.—The easy elegance of his form, the lightness of his motions, and the ample branches that adorn rather than defend his head, added to his size, strength, and swiftness, render him one of the most elegant, if not one of the most useful of quadrupeds.

This animal is extremely delicate in the choice of his food, which consists partly of grass, and partly of the young branches and shoots of various trees. When satisfied with eating, he retires to the covert of some thicket, to chew the cud; but his rumination is performed with greater difficulty than that of the cow or sheep, and is attended with a sort of hiccup during the whole time it continues.

Though there are but few varieties of this animal in England, and they generally of the same size and colour, yet in other parts of the world they differ very considerably.

THE FALLOW-DEER.



No two animals can more nearly resemble each other in form, disposition, swiftness, and timidity, than the stag and the fallow-deer; yet they never breed together, nor even herd in the same place; but form distinct families, and avoid each other with fixed animosity. The fallow-deer are much smaller, and of a nature less robust than the stag; but the chief variation in their appearance consists in the horns; those of the buck being broad and palmated, whereas those of the stag are perfectly round.

Fallow-deer are but rarely found wild in forests; being generally bred up in parks, and kept for the amusement and luxury of the great. They browse closer than the stag, and are very prejudicial among young trees; frequently stripping them too close for recovery. They continue almost in the same state throughout the whole year; though there are particular seasons when their flesh is chiefly in esteem.

A desire of gaining some favourite spot for pasture, often causes a herd of these animals to divide into two parties, and to engage each other with equal ardour and obstinacy. They attack with perfect order; support the assault with courage; retire or rally, as occasion may require; and even renew the combat for several days; until, at length, the weaker party is compelled to seek an asylum in the coarsest and most disagreeable part of the park.—In England there are two varieties of the fallow-deer; the beautiful spotted kind, originally brought from Bengal; and the deep-brown sort, introduced from Norway, by James I. and now common in many parts of this kingdom.

THE ROE-BUCK.

THIS animal is the smallest of the deer kind known in our climate, and is now almost extinct among us, except in some parts of the highlands of Scotland. Its height is about two feet, and its length seldom exceeds three; the body is covered with long hair, well adapted to the rigour of its mountainous abode; the horns are from eight to nine inches long, upright, round, and divided into three branches; the form of the body is peculiarly elegant; and the animal is equally to be admired for its fleetness and vivacity. The method by which it eludes the hunter's pursuit, also proves that it possesses a greater degree of cunning than the stag; for instead of pressing forward like that animal, it confounds the scent, by returning upon its former tracts; and then, bounding on one side, it lies flat and motionless upon its belly, while both dogs and men pass by.

The roe-buck differs materially from the rest of the deer kind, by its habits and inclinations; for instead of assembling in herds, and evincing the utmost inconstancy of affection, each resides with his favourite female and young ones; never admitting a stranger into the little community.—Her maternal affection and solicitude are extremely strong; but notwithstanding all her exertions, the fawns are frequently found out and worried by dogs, or destroyed by some other enemy.

In Great Britain there are but two known varieties of this animal; the red, which is the larger sort; and the brown, with a spot behind, which is somewhat less; but in America, the breed is extremely numerous, and the variety in equal proportion.

THE REIN-DEER.

Of all animals of this kind, the rein-deer is the most extraordinary and the most useful. It is a native of the icy regions of the North, and seems admirably adapted by nature to answer the necessities of that hardy race of mankind that live near the pole. To the natives of Lapland and Greenland it affords most of the advantages of the horse, the cow, and the sheep; conveying them and their scanty furniture from one mountain to another; yielding them wholesome milk; and furnishing them with a warm, though homely sort of clothing.

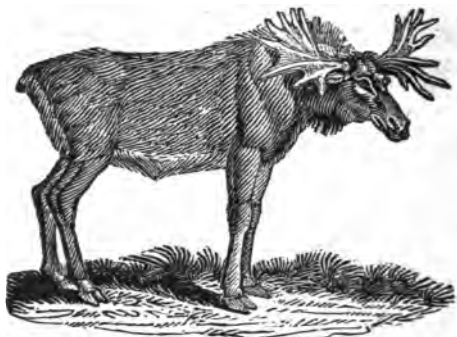
It is lower and stronger built than the stag; its hair also is much warmer and thicker; and its horns proportionably larger, branching forward over its eyes, and palminated towards the extremities. When the animal first sheds its coat, its colour is brown; but as summer approaches, it begins to grow light, and varies until it becomes nearly grey. The horns of the female are like those of the male, except that they are smaller and less branching.

The pace of the rein-deer is rather a trot than a bounding, and this it can continue for a whole day; its hoofs are cloven and moveable, so that it spreads them abroad as it goes, to prevent its sinking in the snow; and as the animal moves along, they are heard to crack, with a pretty loud noise.—The females do not begin to breed till they are two years old; but then they regularly continue breeding every year till they are superannuated.

The principal food of these animals during winter is a white moss, or lichen, with which almost all the desert parts of the country are covered like snow, and which

the deer easily turn up with their noses, even when it is deeply buried in snow. Sometimes, however, it happens, though but rarely, that the winter commences with rain, and a frost ensuing, covers the whole country with a complete crust of ice. In this case both the rein-deer and their owners are undone; for as they have no provisions laid up in case of accident, and they can only obtain a scanty supply from the pine trees, that are covered with moss, the greatest part of the herd commonly perish, without any possibility of assistance.

THE ELK.



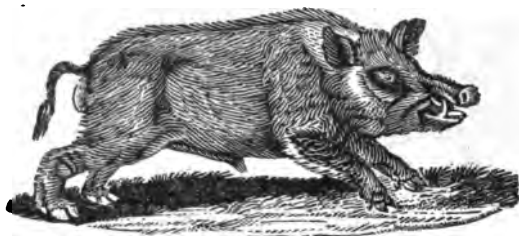
THE elk varies considerably in size, according to the climate where it is found, and in some parts is truly gigantic; but, in general, the full-grown animal is about as large as a common horse. It is an animal rather of the buck than the stag kind, as its horns are flatted toward the top, and its common pace is a quick shambling trot, during which the hoofs clatter like those of the rein-deer. It inhabits only the colder countries; and is generally found much larger in Asia and America than in Europe. With respect to its disposition, it is timorous and gentle; content with its pasture; and never inclined to disturb any other animal, when supplied itself.

These quadrupeds subsist principally upon grass in summer, and the bark of trees in winter. When the whole country is covered with snow, they herd together under the tall pine-trees, strip off the bark, and remain in that part of the forest, while it affords them a sufficient supply.

THE ANTELOPE.

THIS animal is well known to the English, from whom it received its name; is about the size of the roe-buck, but the horns are differently formed, being about sixteen inches long, almost touching each other at the bottom, and spreading as they rise, so that their tips are sixteen inches asunder. Like others of the same kind, the antelope is brown on the back, and white under the belly; but these colours are not separated by the black streak which is to be found in all of the like species.

The gazella, kevel, corin, guib, grimme, meminna, and condoma, are animals, distinguished by the common appellation of antelopes, and seem to form an intermediate link between the goat and the deer; agreeing with the former in the texture of their horns, which have a core in them, and are never cast; and with the latter in elegance of form, and extraordinary fleetness. They inhabit, two or three of them excepted, the hottest parts of the globe, or at least those parts of the temperate zone that lie so near the tropics as to form a double climate. They are very numerous in Asia and Africa; and are, in general, of a most light and elegant make; of a restless and timid disposition; remarkably agile; and in most of their boundings so light and elastic, as to strike the spectator with astonishment.

THE BOAR.

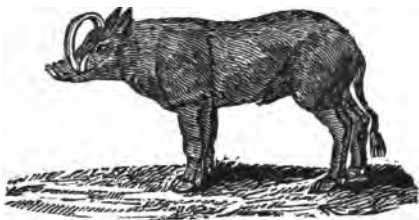
ANIMALS of the hog kind seem to unite in themselves all those distinctions by which others are separated. They resemble the horse in the number of their teeth, in the length of their head, and in having but a single stomach; they resemble the cow kind in their cloven hoofs and the position of their intestines; but in their appetite for flesh, their numerous progeny, and their not chewing the cud, they resemble those of the claw-footed kind. Thus this species serve to fill up that chasm which is found between the carnivorous kinds and those that live upon grass; being possessed of the ravenous appetite of the one, and the inoffensive nature of the other. We may consider them, therefore, as being of a middle nature, and cannot be properly referred either to the rapacious or the peaceful kinds, and yet partake in some degree of the nature of both. They offend no other animal of the forest, at the same time that they are furnished with arms to terrify the bravest.

The wild boar, which is the original of all the varieties that we find in this race, is neither so stupid nor filthy an animal as that which we have reduced to tameness. He is much smaller than the hog; and does not vary in colour, like those of the domestic kind; but is always found of a dark iron-grey, with black ears, feet, and tail. His snout is much longer than that of the tame hog; and the tusks are considerably larger,—sometimes growing near a foot in length; these spring out from both the upper and under jaw; but the lower ones are most to be dreaded, as they are frequently known to inflict desperate wounds.

The chase of the wild boar constitutes one of the principal amusements of the grandees, in those countries where it is to be found. Some mastiffs are generally used upon these occasions; and the boar, when driven from his co-

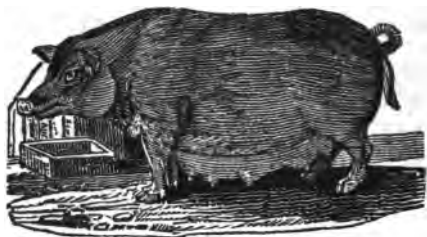
vert, goes slowly and uniformly forward, not much afraid of, nor very far from, his pursuers: at the end of every mile he turns round, and stops, as if desirous of attacking the hounds; but these being aware of his ferocity, keep off, and bay him at a distance; he then resumes his course, till, being completely fatigued, the young dogs close in upon him, though at the risk of their lives, while the more experienced ones, are content to wait until the hunters come up with their spears, and either dispatch or disable him.

THE BABYROUESSA.



THE babyrouessa, or Indian hog, is still more remote from the hog kind than the capibara; yet its general figure has induced travellers to rank it among that family. Its legs are longer than those of the hog; its snout shorter; its body more slender, its hair rather resembling wool than bristles; and its tail tufted with the same. The jaw bones are very thick and strong; and from thence proceed four enormous tusks, of a very fine ivory, smother and whiter than those of the elephant, but not so hard or serviceable.

They have a mode of reposing themselves different from most other animals of the larger kind; which is by hitching one of their upper tusks on the branch of a tree, and then suffering their whole body to swing down at ease; thus suspended from a tooth, they continue the whole night perfectly secure, and out of the reach of such animals as hunt them for prey.—They are principally found in Borneo, Senegal, and Madagascar.

THE SOW.

THIS animal, like the hog in a natural state, subsists principally upon roots and vegetables, and seldom attacks any other animal, being content with such provisions as are obtained without danger; yet if it happens to meet with a dead and even putrescent carcase, it immediately seizes upon it as eligible prey. In a domestic state, it is the most sordid and brutal animal in nature; the awkwardness of its form seems to influence its appetites; and it appears to make choice only of what other animals find the most offensive. Stupid, inactive, and drowsy, its life is a complete round of sleep and gluttony; and if supplied with sufficient food, its flesh soon becomes a greater load than its legs are able to support, and it continues to feed, lying down, or kneeling, an helpless instance of indulged sensuality. Wind appears to have a peculiar influence on this quadruped; for when it blows violently, it appears much agitated, and runs towards its sty, screaming in the most violent manner. It has also been remarked that, on the approach of bad weather, it will bring straw to its sty, as if to prepare a bed, and hide itself from the impending storm.—They go with young about four months, and produce six, eight, and often twelve, at a litter.

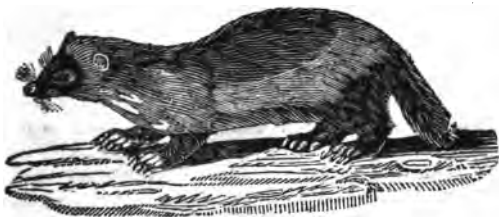
THE PECCARY AND CAPIBARA.

THE peccary, or tajacu, at first view, resembles a small hog; particularly in the shape of its head, the length of its snout, and the form of its legs; but upon a nearer examination, some striking differences appear. The body is not so bulky; the bristles are much thicker and stronger than those of the hog; instead of a tail it has only a small

fleshy protuberance; and it differs from all other quadrupeds in having upon its back a sort of navel, which exudes a liquor of a strong musky smell;—this, however, is so covered with long bristles, that it cannot be seen unless they are drawn aside. The ears of this animal are erect, and about two inches and a half long; the eyes smaller than those of the common hog; and one side of the lower lip is generally smooth, by the rubbing of the tusk of the upper jaw.—These animals are very numerous in America, where they are frequently seen in herds of several hundreds together, grazing among the woods, occasionally uniting, like hogs, in each other's defence.

The capibara or cabiai, resembles a hog of about two years old, in the shape of its body, and the colour and coarseness of its hair. Like the hog, it has a short thick neck, and a rounded bristly back; and like that quadruped, it is fond of water and marshy places; brings forth many young at a time; and feeds indiscriminately upon vegetable and animal food: but when examined more attentively, the difference is sufficiently obvious. The head is longer; the eyes are larger; and the snout is divided, like that of a rabbit or hare, and furnished with thick strong whiskers; it is also destitute of a tail; and, unlike all others of this kind, instead of a cloven hoof, it is in a manner web-footed, and thus adapted for swimming and living in the water. It is a native of South America; and some naturalists have called it the water-hog, from its frequenting the borders of lakes and rivers, like the otter.

THE GLUTTON.

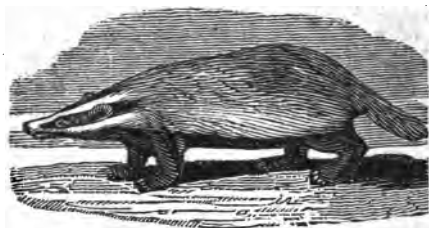


THIS animal is found in Siberia, and the north parts of America, where it is known by the name of the carcajou: its body is thick and long, and the legs short; it is black along the back, and of a redish brown on the sides; its

fur is in the highest estimation, for its softness and beautiful gloss; the tail is bushy and short.

This voracious creature is seen lurking among the thick branches of trees, in order to surprise the deer, with which the extensive forests in that part of the world are known to abound; and when one of these happen to pass, the glutton immediately darts down upon it, sticks its claws between its shoulders, and remains there immoveably firm, eating its neck, and digging a passage to the great blood vessels that lie in that part. At length the deer, wounded, and exhausted by loss of blood, sinks to the ground; and the glutton continues eating in the most voracious manner, till, incapable of any other animal function, it lies torpid by the side of its prey.

THE BADGER.



THE legs of this animal are so short, that its belly seems almost to touch the ground; this, however, is a false appearance, caused by the length of the hair, which makes the body seem much more bulky than it really is. It is a solitary, stupid animal, that seeks refuge remote from man, and digs itself a deep winding hole, with great assiduity; its legs being very strong, and its claws stiff and horny. It seldom ventures far from its habitation, as it runs but slowly, and can find safety only in the strength of its retreat. When surprised by dogs at some distance from its hole, it falls upon its back, combats with desperate resolution, and seldom dies unrevengeed on its enemies.

Like the fox, this animal is carnivorous, and nothing that has life comes amiss to it. It sleeps the greater part of its time, and is particularly fat during the winter sea-

son. Its hole is kept remarkably clean; and when the female brings forth, she makes a comfortable bed of hay for the reception of her young, which she feeds at first with her milk, and afterwards with such petty prey as she can surprise.

When taken young, the badger is easily tamed; and, after a short time, will play with the dogs, and follow its master about the house. Its flesh is eaten by the poor of some countries; but is very rank and ill tasted.

ANONYMOUS ANIMAL.



THE animal delineated in the above cut, is by some called the ursine sloth; but it must evidently be referred to the bear class, it resembling that animal in size and shape, and is clothed with very long, black, shaggy hair. The snout is a little elongated; the feet are all armed with five crooked claws; and the tail is so short as to be scarcely visible. Its motions are in general slow and languid; but it appears moderately lively; and utters a kind of short abrupt roar when disturbed or irritated. It feeds upon vegetables, and is extremely fond of honey. It is a native of India; where it is said to burrow in the ground, and to have been dug out of its subterraneous retreat when first discovered.

THE SAGOIN.

THE sagoin is about the size of a rabbit; of a grisly colour, with a tail like a cat, and feet like a squirrel; its face is similar to a martin's, with a short round ear. It is found in the Brazils and South America.

THE KANGUROO.

Of this species of animals there are three kinds; the largest is the size of a full-grown sheep, but there is a remarkable disproportion in the shape; the head and neck being very small, while the lower parts gradually dilate to a very great size; the fore legs are hardly nineteen inches long, while the hind ones measure three feet seven inches. The head bears some resemblance to that of the deer, having a mild and placid visage; the ears are moderately large and erect, the eye full, the mouth rather small. The general colour is a pale brown, inclining to white underneath. From the great difference in length of the fore

and hind legs, the pace of this animal consists in vast springs, or bounds, which are said to exceed sixteen or eighteen feet in length. In its state of rest, it sits erect on the whole length of the hind feet, supporting itself by the base of the tail, which is occasionally used as a weapon of defence, and is of such prodigious strength as to be able to break the leg of a man at a single blow. The young ones when first brought forth are extremely diminutive; and in the early periods of their growth, they most regularly reside in an abdominal pouch, that the female is furnished with, which conceals the teats, and serves as a receptacle to secure the young in time of danger.

The silver-haired kangaroo, is considerably smaller than the former, and is distinguished by the delicacy of its limbs and the superior fineness of its hair.

The rat-kangaroo, differs from the common species in being only of the size of a rabbit. The colour is brown, with long coarse hair, ash-coloured beneath; the ears are more rounded, and there are only four toes on the fore feet. On each side of the upper lip are several long whiskers, which are wanting in the great kangaroo; the head is rather flattened sideways, and the general appearance of the animal is far less elegant and pleasing. These, as well as the two preceding kangaroos, are natives of New South Wales; and were first discovered by Captain Cook.

THE OPPOSSUM.



THE head of this animal is somewhat like that of a fox; with small lively eyes, and long, broad, and transparent ears, like those of the rat kind. The legs are short, and

the feet formed like hands, each having five fingers, with white crooked nails, and rather longer behind than before. The tail is round and long, slightly covered with hair near the insertion, but quite naked towards the end. This animal, like the kangaroo, is possessed of a pouch for the reception and convenience of its young. The number of the young ones vary from five to ten or eleven.

The opossum, when on the ground, is a slow helpless animal; but it climbs trees with great ease and expedition. It chiefly subsists upon birds, and hides among the foliage of the trees to seize them by surprise; it also frequently hangs by the tail, which is long and muscular; and, in this situation, watches for its prey for hours together. If any lesser animal, which it is able to overcome, happens to pass underneath, it drops upon it with unerring aim, and quickly devours it. By means of its tail, it likewise slings from tree to tree, hunts insects, and escapes its pursuers.—It is easily tamed, and is neither mischievous nor ferocious; but its figure is disagreeable, and the odour that exhales from its skin, rank and disgusting.—It is found in North and South America.

THE MEXICAN OPPOSSUM.



It is found in the mountainous parts of New-Spain.—It resembles the former, but is much less, and lives in trees. Its tail is useful in twisting round the branches, and securing its hold.

The young attach themselves to their mother by their hands and tails; and, upon the least alarm, embrace her closely; whilst she carries them to the shelter of some neighbouring tree.

THE PHALANGER.

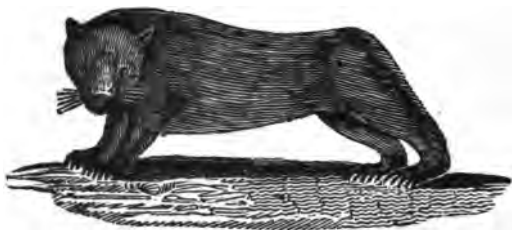
THE phalanger nearly resembles the opossum; but is distinguished by the fashion of its hinder hands, the thumb and the fore fingers being jointed together, except at the extremities. This animal is about the size of a rat, and has accordingly, by some naturalists, been called the rat of Surinam.

The tarsier is an extraordinary little animal, resembling the former, in having four hands and a long tail; but it differs very much in the extreme length of its hinder legs, which are longer than the rest of its whole body. Its hair is woolly, soft, and of a deep ash colour; and the tail is naked in the middle, and hairy at both extremities.

THE MORMOSE, AND CAYOPOLIN.

THE marmose greatly resembles the opossum, and is found in the same continent. It seems, indeed, only to differ in size, being less; and, instead of an abdominal pouch, it has only two longitudinal folds, within which, the young continue to suckle some short time after they are brought forth.

The cayopolin is somewhat larger than the former; but nearly resembles it in its habits and formation, except that its snout is more pointed; its tail longer in proportion; and its colour different, being of an ash, somewhat inclining to yellow.

THE WOMBACH.

THIS animal was discovered in the year 1798, on the coast of New South Wales: it is about the size of a badger, a species of which it was supposed to be, from its dexterity in burrowing in the earth, by means of its fore paws; but being watched in its general motions, it appeared to have more of the habits and manners of a bear.— Its head is large; the forehead, above the eyes, is very broad; from which it tapers to the nose, which is a hard gristly substance, and seems well adapted for removing the earth when it burrows; it has two cutting teeth in each jaw, long and sharp, like those of a kangaroo, with a space of an inch between them and the grinders, which are strong, and well set. From the structure of its teeth, it does not appear to be a carnivorous animal; its eyes are small and black; its ears are short and pointed. The paws are something like a beaver's, with which it runs so awkwardly that a man could easily overtake it. Its posteriors differ from most other animals, by falling down in a sloping direction, commencing at the hip-joint, and descending to the knee-joint of the hind legs: its tail is so short, that it is scarcely perceivable. The general colour is of a cream brown, intermixed with black hairs. The female, like most other animals of New South Wales, is distinguished by a pouch, or false belly, for the security of her young. The flesh is considered by the natives as a great luxury.

THE FLYING OPPOSSUM.

THIS animal, like the former, is found in New South Wales; its head is like a squirrel's, with ears large and erect; the fur is more delicate, and of a beautiful dark

glossy colour, mixed with grey, the under parts white; on each hip is a tan-coloured spot. The sailing membrane is like that of the flying-squirrel's, but broader in proportion; on the fore-legs, it has five toes, with a claw on each; on the hind ones four toes, and a long thumb, which enables the animal to use it as a hand: it is remarkable, that the three out claws of the hind feet are separated like the others.

THE HARE.



Of all animals of this species, the hare is the largest, the most timorous, and the most persecuted; its muscles are formed for swiftness, and its senses seem only given to direct its flight. It has large prominent eyes, placed backward in its head, so that it can almost see behind it as it runs; and its ears, which are still more remarkable for their size, are capable of being directed to every quarter; so that the smallest sounds are readily received, and the animal's motions directed accordingly. The muscles of the body are very strong, and without fat; so that it carries no superfluous burthen of flesh; and the length of the hind feet still add to the rapidity of its motions.

Thus admirably formed for evasion and escape, the hare might be supposed to enjoy a state of tolerable security; but as every rapacious creature is its enemy, it seldom lives out its natural term. Dogs of all kinds pursue it with avidity; the cat and weasel tribes are continually practising all their little arts to seize it; birds of prey are still more dangerous enemies; and man, the most potent foe, destroys greater numbers than all the rest.

The females go with young but thirty days, and generally bring forth three or four at a time. These are suckled for about three weeks, and then left to shift for themselves; however they seldom separate far from each other, or from the spot where they were produced; but make each a form at some little distance. They generally feed during the night, choosing the most tender blades of grass, and quenching their thirst with the dew. They live also upon roots, leaves, fruit, and corn; are particularly fond of birch, pinks, parsley, and such plants as are furnished with a milky juice; and during winter, they strip the bark off trees, there being scarcely any that they will not feed on, except the lime or the alder. When kept tame, they are fed with lettuce, and other garden herbs; but the flesh of such as are thus brought up, is always indifferent.

THE RABBIT.



THIS animal, though nearly allied to the preceding one in form and disposition, is a distinct species; and when shut up with the hare, the most furious combat ensues, till one or the other is destroyed. The fecundity of the rabbit is still greater than that of the hare, as it breeds seven times in the year, and generally produces seven or eight young ones at a time. On a supposition, therefore, that this happens regularly for about four years, the progeny from a single pair will amount to almost a million and a half. Their enemies, however, are so numerous as to prevent any increase likely to prove injurious to mankind; for besides their affording food to us, they are devoured by animals of prey, of almost every description.

The rabbit makes for itself a hole or burrow, where it

continues a great part of the day, and breeds up its young. Previous to the time of parturition, the female enlarges her apartment, and makes a warm and comfortable bed with a quantity of wool, which she pulls from her own body. During the whole of the first two days, she never leaves her young, except when pressed by hunger; and then she eats with surprising quickness, and immediately returns. She always conceals them from her consort, lest he should devour them; and therefore, when she goes out, she covers up the hole so carefully, that its place is scarcely perceptible: yet, when they are brought by the mother to the mouth of the hole, to eat such vegetables as she gets for them, the male seems to acknowledge them as his offspring, takes them betwixt his paws, smooths their hair, and carresses them one after another with great tenderness. The maternal attentions continue only one month; as at the expiration of that time, the young are able to provide for themselves.

The domestic rabbit is of various colours—white, brown, black, and variegated. It is somewhat larger than the former; but its flesh is not so good, being softer and more insipid.—Its food is generally cabbage-leaves, cole-wort, blades of corn, sour-dock, and other succulent plants: but sweet short hay, with a little clean oats, and water, make the best diet.

The fur of this animal is principally used in the manufacture of hats; being mixed in certain proportions with the fur of the beaver.

THE GUINEA-PIG.



THIS little animal, though a native of Brazil, lives and propagates in temperate, and even in cold climates, when protected from the inclemency of the seasons.—Great

numbers are kept in a domestic state, but for what purpose can hardly be determined; they have neither beauty nor utility to recommend them; their skins are of little good; and their habits and dispositions are equally unpleasant and disgusting. Void of attachment even to their own offspring, they suffer them to be devoured the moment they are brought forth, without making the smallest attempt to defend them. The males frequently destroy their own young; and are so stupid, as to allow themselves to be killed by cats, without resistance. They pass their whole lives in sleeping, eating, and in the propagation of their species. They are by nature gentle and tame; they do no mischief, but seem to be equally incapable of good.—Rats are said to avoid the places where they reside.

The guinea-pig is considerably less than the rabbit; its upper lip is only half divided; it has two cutting-teeth in each jaw; large and broad ears; its hair is of different colours, white varied with orange and black, in irregular patches; it has no tail; it is a restless animal; feeds on bread, grains, and vegetables; and makes a noise like the grunting of a pig.—It is capable of breeding at the age of two months, and produces from four to twelve at a time.

THE SPOTTED CAVY.

THIS animal is about the size of a hare, but its body is much thicker, plumper, and fatter. The colour of the hair on the back is dark brown, or liver-coloured; it is lighter on the sides, which are beautifully marked with lines of white spots, running in parallel directions from its throat to its rump; those on the upper part of the body are perfectly distinct; the belly is white. Its head is large; its ears short and naked; its eyes full, and placed high in its head, near the ears; it has two strong yellow cutting-teeth in each jaw; its mouth is small, and its upper lip is divided; it has long whiskers on its lips, and on each side of its head, under the ears; its legs are short; it has four toes on the fore, and three on the hind foot: it has no tail.

When pursued, it takes to the water, and escapes by diving. If attacked by dogs, it makes a vigorous defence. Its flesh is esteemed a delicacy by the natives of Brazil.

THE COMMON SQUIRREL.

THIS beautiful little animal is equally admirable for the neatness and elegance of its formation, as for its liveliness and activity.—Its disposition is gentle and harmless.—Though naturally wild, it is soon familiarized to confinement and restraint; and though excessively timid, it is easily taught to receive with freedom, the most familiar caresses from the hand that feeds it.—It usually lives in woods, and makes its nest of moss or dry leaves in the hollow of trees.—It seldom descends upon the ground, but leaps from tree to tree with great agility.

Its food consists of fruits, almonds, nuts, acorns, &c. of which it accumulates great stores for winter provision, and secures them carefully in its nest. In the summer, it feeds on buds and young shoots, and is particularly fond of the cones of the fir and pine trees.

The squirrel is of a bright brown colour, inclining to red; the breast and belly are white; the ears are ornamented with long tufts of hair; the eyes are large, black, and lively; the fore feet strong and sharp; the fore legs are curiously furnished with long stiff hairs, which project on each side like whiskers.—When it eats, it sits erect, and uses its fore feet as hands to convey food to its mouth.

Of the squirrel there are several varieties, some of which are to be found in almost every country; but they chiefly abound in northern and temperate climates.

In the spring, the male pursues the female, and exhibits wonderful proofs of agility; whilst the latter, as if to avoid him, makes a variety of entertaining sallies, and, like a true coquet, feigns an escape, by way of enhancing the value of the conquest.—They bring forth four or five young ones at a time.

THE FLYING-SQUIRREL.



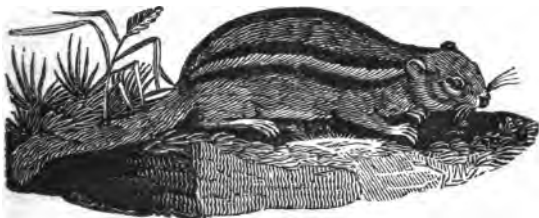
THIS little animal is less than a common squirrel, and larger than a field mouse. Its skin is very soft, and elegantly adorned with a dark fur in some places, and light grey in others. Its teeth are very sharp; its ears small; and its eyes black and sparkling. It is said to partake of the nature of the squirrel, the rat, and the dormouse; but that in which it is distinguished from all other animals, is in its peculiar conformation for taking those leaps that almost resemble flying. It is assisted in these surprising bounds by a peculiar formation of the skin, which extends from the fore feet to the hinder; so that when the animal stretches out its legs, this skin is spread out between them, somewhat like that between the legs of a bat; and the surface of the body being thus increased, the squirrel keeps buoyant in the air until the force of its first impulsion is expired, and it then descends.

These quadrupeds are more numerous in America than in Europe, but not commonly seen in either. Like the common squirrel, it inhabits the tops of trees, but is of a more torpid disposition, and frequently becomes the prey of the pole-cat, the martin, and other enemies. It may be easily tamed, but is apt to break away whenever it finds an opportunity. It does not seem fond of nuts, or almonds, like other squirrels; but is chiefly pleased with the young sprouts of the birch, and the cones of the pine.

In Virginia, there is another of this species, called the hooded-squirrel: the lateral membrane begins at the chin and ears, where it forms a kind of hood, and extends, like that of the former, from the fore to the hind legs. Its body is a redish colour above, and of a yellowish ash beneath. It is a species, as yet, but little known.

THE GREY SQUIRREL.

THIS animal is about the size of a young rabbit; its ears are short, and not tufted at the ends; its hair is grey, mixed with black; on each side there is a red streak, which runs lengthwise: its tail is long and bushy, of a grey colour, variegated with black and white.—In Sweden and other cold countries, it changes its colour in the winter.—It make its nest in hollow trees with moss, straw, wool, &c. and lays up its stores of provision in holes made in the ground, for its winter sustenance. These hoards are often destroyed by swine.—Its fur is very valuable, and is imported under the name of petit-gris.

THE GROUND-SQUIRREL,

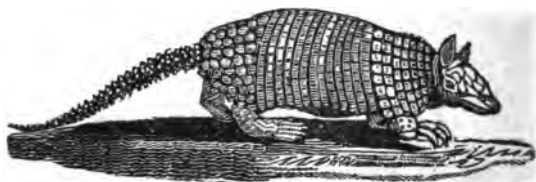
THE ground-squirrel is very numerous in the forests of North-America and Asia. It burows in the ground, and makes two entrances to its habitation; that, if one should be stopped up, it may have access by the other. Its hole is formed with great skill, having several branches from

the principal passage, each of which is terminated by a store-house, in which its winter food is deposited; in one is contained acorns, in another nuts, in a third maize, and in a fourth chestnuts, which are its favourite food.

These animals seldom stir out during winter, nor so long as their provisions last; when these fail, they sometimes work their way into places where apples are laid up, or in barns where maize is stored, and make great havoc. During harvest, they fill their mouths so full with corn, that their cheeks are quite distended; and in this manner, carry it to their concealed store. They give great preference to certain kinds of food; and if after filling their mouths with rye, they chance to meet with wheat, they discharge the one, that they may secure the other.

This animal is marked with a stripe of black, which runs along the ridge of the back; and on each side is a yellow stripe, bordered with black; its head, body, and tail, are of a reddish brown; breast and belly, white; its nose and feet of a pale red colour: its eyes full and lively. It is very wild; bites severely; and is tamed with difficulty. Its skin is of no value.

THE ARMADILLO.

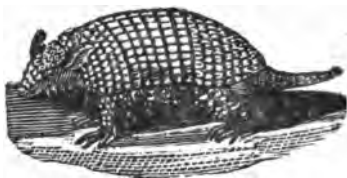


THE armadillo is found in South America, where there are several varieties of them.—They are all covered with a strong crust or shell, and are distinguished from each other by the number of flexible bands of which it is composed. It is a harmless, inoffensive animal; feeds on roots, fruits, and other vegetables; grows very fat; and is greatly esteemed for the delicacy of its flesh.

The Indians hunt it with small dogs, trained for that purpose. When surprised, it runs to its hole, or attempts to make a new one, which it does with great expedition, having strong claws on its fore feet, with which it adheres so firmly to the ground, that if it should be caught by

the tail, whilst making its way into the earth, its resistance is so great, that it will sometimes leave it in the hands of its pursuers. To avoid this, the hunter has recourse to artifice; and by tickling it with a stick, it gives up its hold, and suffers itself to be taken alive. If no other means of escape be left, it rolls itself up within its covering, and drawing in its head and legs, and bringing its tail round them as a band, to connect them more forcibly together, in this situation it sometimes escapes by rolling itself over the edge of a precipice.

THE SIX-BANDED ARMADILLO.



THIS animal differs from the preceding in size, it never being known to exceed that of a young pig; and the number of its bands being less; between the folds of which, there are a few scattered hairs. Its tail is thick at the base, tapers to a point, and is shorter than the rest of its species.—It is found in Brazil and Guiana.

To give a minute description of the shells or coverings of the armadillos, would be extremely difficult, as they are all composed of a number of parts, and differ greatly from each other, in the order and disposition of the figures with which they are distinguished; but it may be necessary to observe, that, in general, there are two large pieces that cover the shoulders and the rump, between which lie the bands, which are more or less in number in different kinds. These bands are not unlike those in the tail of a lobster; and being flexible, give way to the motions of the animal.

These singular quadrupeds are naturally harmless and inoffensive, unless they find their way into a garden, where they do a great deal of mischief by eating the melons, potatoes, and other vegetables. Their motion is a swift walk, but they can neither run, leap, nor climb trees; so that if pursued in an open place, their only resource is to make towards their holes as fast as possible.

THE PANGOLIN, OR MANIS.

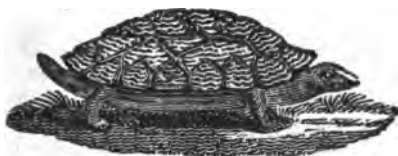
THIS singular animal is defended by a coat of mail, which protects it from the attacks of the most powerful animals. All the upper parts of its body are closely covered with scales of different sizes, which it can erect at pleasure, opposing to the adversary a formidable row of offensive weapons. The tiger, the panther, or the leopard, in vain attempt to force it. The moment it perceives the approach of an enemy, it rolls itself up like a hedge-hog, and by that means secures all the weaker parts of its body. Its long tail, which, at first view, might be thought easily separable, serves still more to increase its security, for being lapped round the body, and defended with shells even more cutting than any other part, the creature remains in perfect security.

Incapable of being carnivorous, since it has no teeth, or of subsisting on vegetables which require much chewing, the pangolin lives entirely upon insects; for which Nature has fitted it in a very remarkable manner. As it has a long nose, it may naturally be supposed to have a long tongue; but to increase its length still more, it is doubled in the mouth, so that when shot out, it extends above a quarter of a yard beyond the tip of the nose. When, therefore, the pangolin approaches an ant-hill (for these are the insects on which it chiefly feeds) it lies down near it, concealing as much as possible the place of its retreat, and stretches out its long tongue among the ants, keeping it for some time immoveable. These little creatures, allured by its shining appearance, and the unctuous substance with which it is smeared, instantly gather upon it in great numbers; and when the pangolin supposes there is a sufficiency, it quickly withdraws the tongue, and swallows them at once. This curious method is repeated

either till it be satisfied, or till the ants, grown more cautious, will be no longer allured to their destruction.

The pangolin chiefly resides in the most obscure parts of the forest, and digs itself a retreat in the clefts of rocks, where it brings forth its young in security. It is about three or four feet long, or taking in the tail, from six to eight. Like the lizard, it has a small head, a very long nose, a short thick neck, a long body, short legs, and a tail of considerable length, thick at the insertion, and terminating in a point. It has no teeth, but its feet are armed with long white claws. It is found in the warm latitudes of the East, as well as in Africa; but as it is rarely met with, its fecundity, in all probability, is not great. The negroes of Africa, when they find it, beat it to death with clubs, and consider its flesh as a peculiar delicacy.

THE LAND-TORTOISE.



THIS animal is found in many parts of Africa, in Greece, and almost all the countries bordering on the Mediterranean; also in Sardinia, Corsica, and all the European islands in the Archipelago.—The length of its shell seldom exceeds eight or nine inches, nor does it weigh in general more than three pounds. The shell is composed of thirteen middle pieces, and about twenty-five marginal ones; it is of an oval form, extremely convex, and broader behind than before. The middle part is of a blackish brown varied with yellow; the under part, or belly of the shell, is of a pale yellow, with a broad dark line down each side, leaving the middle plain. The head is not large, nor does the opening of the mouth extend beyond the eyes; the upper part is covered with irregular scales; the legs are short, and the feet moderately broad, and covered with strong scales; the tail, which is rather shorter than the legs, is also covered with scales, but terminates in a horny tip.

This animal resides principally in burrows that it forms in the ground, where it sleeps the greatest part of its time, appearing abroad only a few hours in the middle of the day. In the autumn it hides itself for the winter, remaining torpid four or five months, and not again making its appearance till the spring. About the beginning of June, the female scratches a hole in some warm situation, in order to deposit her eggs; these are hatched in September, at which time the young are about the size of a large walnut.

The tortoise has an arbitrary stomach, as well as lungs, and can refrain from eating as well as breathing, for a great part of the year. It is particularly remarked for its longevity, being known to exist upwards of a hundred years. Its principal food is lettuces, dandelions, and all plants of a milky nature.

THE PORCUPINE.



THE porcupine is about two feet long, and fifteen inches high; it appears a mass of mis-shapen flesh, covered with quills, from ten to fourteen inches long, resembling the barrel of a goose-quill in thickness, but tapering at both ends. These quills generally incline backward, like the bristles of a hog, but when the animal is irritated, they rise and stand upright. As to the rest of the animal's figure, the muzzle bears some resemblance to that of a hare; the legs are very short, and these, as well as the belly, the head, and all other parts of the body, are covered with a short hair like prickles.

Some persons have indeed imagined that it possessed the power of discharging its quills, but this has been long detected and exploded. It is true, that on the near ap-

proach of an enemy, the porcupine will lie down on one side, and then suddenly rising, wound him with its quills.

The female goes with young seven months, and produces but one at a time; this she suckles about a month, and accustoms it betimes to live, like herself, upon vegetables, and the bark of trees. The quills in the tail are said to be hollow, and to have a hole at the extremity; these the animal can bend in such a manner, as that they can be filled with water, which is afterwards discharged in the nest.

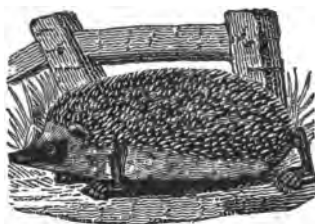
THE COUANDO.



THE couando is much less than the porcupine; its quills are four times shorter, its snout more unlike that of a hare, and its tail of a sufficient length to catch by the branches of trees, and hold by them. It is principally found in the southern parts of America; and is capable of being rendered tolerably tame.

There is another animal in America of this species, called the urson, which is not so round as the former, and somewhat resembles the shape of a pig; it is covered with long bristly hair, with a shorter hair underneath, and under this the quills lie concealed very thick; they are white, with a brown point, and the longest do not exceed four inches: they stick to the hand when the animal is stroked on the back; and when the hand is removed, they adhere so fast, as to follow it. These quadrupeds form their nests under the roots of large trees, sleep very much, and chiefly feed upon the bark of the juniper. In winter, the snow serves them for drink, and in summer they lap water like a dog. They inhabit the country lying to the east of Hudson's Bay; and many of the trading Americans depend on them for food at certain seasons of the year.

THE HEDGE-HOG.



THIS animal, at first sight, seems to bear a strong resemblance to the porcupine; but, on examination, it is found to differ materially, both in the structure of its teeth, and the shortness of its spines, or quills. The length of the animal varies from six to ten inches; the head, back, and sides are covered with spines; but the nose, breast, and belly, are covered with fine soft hair. The legs are short, and almost bare; the toes on each foot are five in number, long, and separated; and the tail, which is about an inch long, is so concealed by the spines, as to be scarcely visible. They generally reside in small thickets, and feed on fallen fruits, roots, and insects; they are also very fond of flesh, either raw or roasted. They chiefly wander about by night, and during the day lie concealed in their holes.

The hedge-hog defends itself from the attacks of other animals, by rolling itself up like a ball, exposing no part of its body, that is not covered with these sharp weapons; thus tiring out the patience of its adversaries. During the winter, this animal wraps itself up in a warm nest of moss, dried grass, and leaves; and sleeps out the rigour of that season. It is sometimes found so completely enveloped with herbage, that it resembles a ball of dried leaves; but when taken out, and placed before a fire, it soon recovers from its state of torpidity. It produces from three to five young at a birth; which at first are white, and exhibit only the marks of this species, with which, however, they are soon covered, like the parent animal.

The hedge-hog may be in some degree domesticated, and has frequently been introduced into houses, for the purpose of expelling those troublesome insects, the cock-roaches, which it pursues with avidity.

THE TANREC.

THIS animal is much less than the hedge-hog, being about the size of a mole, and covered with prickles mixed with hair. Its legs are very short; its voice resembles the grunting of a hog, and, like that animal, it is fond of wallowing in the mire. It is generally found near creeks and harbours of salt water, and is said to be in a state of torpidity several months, during which its hair falls off, and is renewed upon its revival.

THE ANT-EATER.



THERE are several animals distinguished by the common name of ant-eaters, which differ greatly in form; the largest is nearly four feet in length, exclusive of its tail, which is two and a half. It is remarkable for the great length of its snout, which is of a cylindrical form, and serves as a sheath to its long and slender tongue, which always lies folded double in its mouth, and is the chief instrument by which it finds its subsistence.

This creature is a native of Brazil and Guiana, runs slowly, and frequently swims over rivers; it lives wholly on ants, which it collects by thrusting its tongue into their holes, and having penetrated every part of the nest, withdraws it into its mouth loaded with prey.—Its legs are so strong, that few animals can extricate themselves from its gripe. It is said to be formidable even to the panthers of America; and sometimes fixes itself upon them in such a manner, that both of them fall and perish together; for its obstinacy is so great, that it will not extricate itself from its adversary, even after he is dead.—The flesh has a strong disagreeable taste, but is eaten by the Indians.

THE OURANG-OUTANG.

ANIMALS of the ape, baboon, and monkey kind, are furnished with hands, instead of paws; their ears, eyes, eye-lids, lips, and breasts, resemble those of mankind; and they altogether present a picture well calculated to mortify the pride of such as make their persons the chief object of their admiration.—These approaches, however, are gradual, and some bear the marks of our boasted form more strongly than others. In the ape kind, for instance, we see the whole external machine strongly impressed with the human likeness, and capable of the same exertions; in the baboon kind, we perceive a more distant approach to the human form, the quadruped mixing in every part of the figure; the monkey kind are removed a step further: and lastly, the lemur and opossum kinds, which we have already mentioned, seem to lose all resemblance of man, except in having hands.

The ourang-outang, we class first, being the largest of the ape specie, and, from the near resemblance of its external appearance to the human form, it has sometimes obtained the appellation of the “wild man of the woods.” It has, however, a flatter nose, a more oblique forehead, and the chin without the elevation at the base. The eyes are likewise too near each other; and the distance between the nose and mouth, much too great. A variety of essential differences have also been discovered in the internal conformation; which sufficiently evince, that notwithstanding the apparent affinity to man, the interval which separates the two species is immense; the resemblance in figure and organization, and the imitative move-

ments which seem to result from these similarities, neither make him approach the nature of man, nor elevate him above that of the brute.

The specimens hitherto brought into Europe, have seldom exceeded three feet in height; but the largest are said to be about six feet high, very active, and of such prodigious strength, that one of them is able with ease to overpower the most muscular man. They are also exceedingly swift, and cannot be taken without much difficulty. Their colour is generally a kind of dusky brown; their feet are bare; and their ears, hands, and feet, nearly resemble those of mankind. These animals inhabit the woods in the interior of Africa, and the island of Borneo; and in the gloomy forests where they are found, they seem to hold undisputed dominion. They go together in companies, and if they happen to meet one of the human species remote from succour, they shew him no mercy. They even attack the elephant with clubs, and compel him to leave that part of the forest which they claim as their own. They feed on fruits, and, when they happen to approach the shore, will eat fish or crabs.

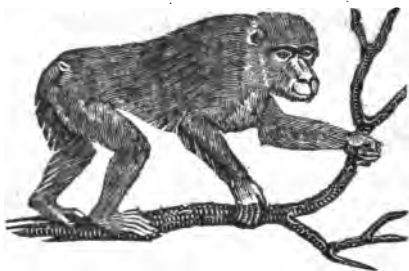
THE LONG-ARMED APE.



THIS animal is distinguished by the extraordinary length of its arms, which reach to the ground, when its body is upright, and give it a disgusting appearance. Its face is flat, and of a tawney colour, surrounded with a circle of grey hairs, which add to the singularity of its aspect;

its eyes are large and deep sunk; its ears round and naked; and its body covered on all parts with black rough hair, except its buttocks, which are quite naked.—It is of a mild, gentle, and tractable disposition; feeds on fruits, leaves, and the bark of trees; is a native of the East-Indies, Sumatra, and the Molucca isles; and measures from three to four feet in height.

THE BARBARY APE.



THIS animal is more untractable than the rest of its species. Its head is large, and its nose prominent: it likewise differs from the last, in having cheek pouches, which it frequently fills with food before it begins to eat. The canine teeth are large and strong; and its ears are round, and something like those of a man; the body is covered with hair of a brown colour, inclining to green, but lighter on the belly. When standing erect upon its hind legs, it is generally two feet and a half, or three feet high. It walks oftener on four, than on two feet; and, when resting, supports its body on two prominent callosities, situated on its buttocks. This is a very common species, and is found in most parts of Africa, from Barbary to the Cape of Good Hope.

There is another of this species, called the pigmy ape, found in Guinea, Ethiopia, and other parts of Africa, much smaller than the last, being not more than a foot and a half in length. It is very tractable, and good-natured, principally feeding on fruit and insects. They defend themselves from wild beasts, in troops, by throwing a cloud of sand behind them, which blinds their pursuers, and facilitates their escape.

THE BABOON.

THE baboon differs from animals of the ape kind, not only in external appearance, but also in temper and disposition.—Fierce, untractable, and libidinous, its disposition seems to partake of the hideous and disgusting deformities of its outward figure. Its body is thick, compact, and nervous, and its strength prodigious. Neither art nor caresses can render it in any degree docile or obedient. It seems to be continually fretting with rage, and seeking every opportunity of shewing its savage and vicious propensities. In a state of captivity, it must be kept closely confined; and even in that state, we have seen one shake the bars of its cage so powerfully with its hands, as to excite the utmost terror in the spectator.

This animal is from three to four feet high; very strong built; with a thick body and limbs, and large callosities behind, which are quite naked and red. Its tail is crooked, and about seven or eight inches long. Its snout is long and thick; and on each cheek is a pouch, for receiving its superfluous provision. It is covered with long thick hair, of a redish brown colour; and walks more commonly on all-fours than erect. Its hands, as well as its feet, are armed with long, sharp claws.

The baboon inhabits the hottest parts of Africa, and feeds on fruits, roots, and other vegetables; and sometimes they assemble in troops, and plunder gardens and cultivated grounds. They are extremely dexterous in throwing the fruit from one to another, and by this means do incredible damage in a very short time.

The female brings forth only one young at a time, which she carries in her arms, and suckles at her breast. Notwithstanding its libidinous disposition, it will not breed in temperate climates.

THE RIBBED-NOSE BABOON.

THIS singular creature is no less remarkable for its great size and strength, than for the variety of beautiful colours on different parts of its body. Its nose is marked with broad ribs on each side, of a fine violet blue-colour; a vermilion line begins a little above the eyes, and running down on each side of the nose, which is somewhat similar to that of a hog, spreads over the tip of it; the insides of the ears are blue, which gradually soften to a purple, and terminate in vermilion: the rump is also of a vermilion colour; and the beautiful colours on the hips are gradations from red to blue: the hair on the forehead is long, turns back, and forms a sort of pointed crest; its beard is dark at the root, orange at the middle, and yellow at the end: the back and legs are covered with short hair, of a dark-brown colour, mixed with yellow; the breast and belly, with long whitish hair, speckled with small dark spots; its tail is short and hairy; nails flat; and its feet and hands are flat and naked.

It inhabits the hottest parts of Africa, and lives on succulent fruits and nuts; is fond of eggs, and will put eight at once into its pouches; then taking them out one by one, breaks them at the end, and swallows the contents.

The pig-tailed baboon, so termed from its short, naked, pig-like tail, is the least of all the baboon kind; its muzzle is large and thick; face and ears naked, and of a flesh colour; the hair on the head and back is of a deep olive: it has hazel eyes; and callosities on the buttocks, which are naked, and of a red colour.—It is a native of Sumatra and Japan.

THE DOG-FACED BABOON.

THIS animal is distinguished by a longer tail than the rest of its kind; in this respect, it seems to bear some affinity to the monkey, and has been mentioned under that denomination by several naturalists.—Its head is large, its muzzle long and thick, its eyes small, its face naked, and of an olive colour; the hair on its forehead is separated in the middle, and hangs down on each side of the face, from thence down its back as far as its waist. It is long and shaggy, of a blueish grey colour, freckled with dark spots; the hair on the lower part of the body is short; and its buttocks are bare and red.

It inhabits the hottest parts of Africa and Asia, lives in troops, and commits great depredations in gardens and cultivated grounds; is above five feet high, and exceedingly strong, vicious, and impudent.

The ursine baboon is not unlike the last, but rather less. Its nose is long, its head large, its ears short, and its forehead high and prominent, terminating in a ridge; the body is thick and strong, and covered with long dusky hair, which gives it the appearance of a young bear; its tail is half the length of the body; the buttocks are red.—This animal is very numerous about the Cape of Good Hope. Troops of them assemble together, and make expeditions for the sake of plunder, in which they observe the utmost precaution. To prevent surprise, they place a centinel, which, upon sight of a man, gives a loud yell; when the whole troop retreat with the greatest precipitation. It is highly entertaining to see the females carrying off their young ones clinging to their backs.

THE COMMON MONKEY.

THE varieties of the larger tribes of the monkey kind are but few; but when we come to the smaller class, the differences among them seem too tedious for enumeration. Without entering, therefore, into any elaborate description of each, it may suffice to observe, that their numbers are very great, and their differences very trifling. There is scarcely a country in the tropical climates that does not swarm with them, and scarcely a forest that is not inhabited by a race of monkeys distinct from all others.

Monkeys of all kinds, being smaller than the baboon, are endued with less powers of doing mischief. Indeed, the ferocity of their nature seems to diminish with their size; and when taken wild in the woods, they are sooner tamed, and more easily taught to imitate man than the former; but it must be confessed, that if not kept under by the influence of fear, they are the most insolent and head-strong animals in nature.

These animals, according to the most respectable accounts, are in possession of every forest where they reside, and may be considered as masters of the place. Neither the tiger, nor the lion himself, will venture to dispute the dominion; nor can the birds escape their continual depredations; for as these harmless inhabitants of the woods usually build upon trees, the monkeys are constantly on the watch to rob their nests. There is, therefore, but one animal that ventures to oppose this mischievous race, and that is the serpent. The larger snakes are often seen winding up the trees where the monkeys reside, and when they happen to surprise them sleeping, swallow

them whole, before they have time to make a defence. In this manner, the forest is generally divided between them, and those sylvan scenes which nature seems to have embellished with peculiar grandeur, chiefly serve as retreats for mischief and malignity.

The common monkey is a native of Barbary, and other northern parts of Africa, Arabia, and Persia, where it is called the monk. Its nose is short and thick; its face of a dark lead colour; the beard on each side is long, and of a greenish yellow; the top of the head is bright yellow, freckled with black; the back and sides, deep brown, with black freckles; the legs, feet, and tail, black; the inside of the thighs, of a pale-blue colour, thinly covered with whitish hairs; and on each side of the rump, close by the tail, is a large white spot.

THE GREAT-EARED MONKEY.

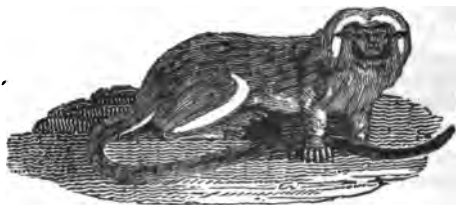


THIS animal is about the size of a squirrel; its face is naked, of a swarthy flesh colour; its upper lip is somewhat divided; its ears are very large and erect; its hair is soft, shaggy, and of a black colour; its hands and feet are covered with orange coloured hair, very fine and smooth; its nails are long and crooked; and its tail black, and twice the length of its body.

It inhabits the hottest parts of South America; is a lively, pleasant animal; easily tamed; but so delicate that it cannot bear a removal to a less temperate climate.

THE STRIATED MONKEY.

THIS creature is still smaller than the great-eared monkey, its head and body not exceeding twelve inches in length; its tail is long and bushy, and marked with alternate rings of black and ash colour; its face is naked, of a swarthy flesh colour; its ears large, and of a human form; its body is beautifully marked with dusky, ash-coloured, and redish hairs; its nails are sharp; and its fingers are like those of a squirrel—It inhabits Brazil; feeds on fruits, vegetables, insects, and snails; and is fond of fish.

THE RED-TAILED MONKEY.

THIS animal is somewhat larger than the striated monkey. It is remarkable in having a great quantity of smooth white hair, which falls down from the top of the head on each side, forming a curious contrast with its face, which is black, and thinly covered with a fine grey down; its eyes are black and lively; its throat, black; the hair on the back and shoulders is of a light redish-brown

colour; the breast, belly, and legs, white; and the tail is long, of a red colour, from the rump to the middle; from thence to the end, it is black.

It inhabits the woods on the banks of the river Amazon; it is a lively, beautiful little animal; has a soft whistling voice, resembling more the chirping of a bird than the cry of a quadruped. It frequently walks with its long tail over its back.

THE SILKY MONKEY.



THIS animal is by some called the lion-ape, from the quantity of hair which surrounds its face, falling backwards like a mane; its tail is also somewhat bushy at the end; its face is flat, and of a dull purple colour; its hair is long, bright, and silky; it is of a pale yellow colour on the body; the hair round the face is of a bright bay, inclining to red; its hands and feet are without hair, and of the same colour as the face; its body is ten inches long, and its tail is thirteen.

This creature is a native of Guinea, very gentle and lively, and seems to be more hardy than the rest of its species; one of them has been known to live at Paris several years, with no other precaution than keeping it in a warm room during winter.

The mustache is another beautiful little animal of the same clime; it has a turf of yellow hair on each cheek, and another on the top of its head, which is long and upright; its face is of a bluish colour; its body of a greenish ash, and the breast and belly, lighter. It is only one foot in length, while the tail measures eighteen inches.

THE RING-TAILED MONKEY.

THIS is the largest of all the American monkeys, being about the size of a large fox. Its body is covered with long smooth hair, of a shining black colour, forming a kind of ruff round the animal's neck ; its tail is long, and always twisted at the end.

These monkeys are said to be very fierce, and so wild and mischievous, that they can neither be conquered nor tamed.—They feed on fruit, grain, herbs, and sometimes insects; live in trees, and leap from bough to bough with wonderful agility, catching hold with their hands and tails as they throw themselves from one branch to another, and maintain themselves so firmly, that, even when shot, they remain fixed to the trees where they die.—The flesh of this animal is good; and is not only eaten by the natives, but also by Europeans who frequent those parts.

There is another animal of the above kind, called the *douc*, differing from other monkeys, in having no callosities on its buttocks, which are entirely covered with hair; it is also much larger, being four feet high when erect. Its face is short, rather flat, and furnished on each side with long hairs of a pale yellow colour; its body is beautifully variegated with different coloured hair; round the neck there is a collar of a bluish purple-colour; the top of the head and body is grey; breast and belly, yellow; arms, white below, and black above; tail white; feet black; face and ears, red; lips black; and round each eye there is a black ring.—It is found in Cochin-China, and in the island of Madagascar; where it is called the *sifac*.

THE BAT.

WE come now to contemplate a race of animals that serve to fill up the chasm between quadrupeds and birds. Some naturalists, indeed, have been at a loss in which rank to place them, and have doubted, in giving their history, whether it was that of beasts or volatiles. They are now, however, by general consent, made to take their place among the quadrupeds, to which their hair, teeth, habits, and conformation, evidently entitle them.

Of this species, the bat is the most common in England; it is about the size of a mouse, or nearly two inches and a half in length. The membranes, commonly called wings, are, strictly speaking, an extension of the skin all round the body; stretched on every side, when the animal flies, by the four inner toes of the fore feet, which are enormously long, and serve like masts that keep the canvas of a sail spread, and regulate its motions. The body is covered with a short fur, of a mouse colour, tinged with red; the eyes are very small, and the ears resemble those of a mouse.

It makes its first appearance early in summer, and commences its flight in the dusk of evening; principally frequenting the sides of woods and shady walks, and skimming along the surface of pieces of water. Its flight is a laborious irregular movement, and if it happens to be interrupted in its course, it cannot readily prepare for a second elevation; so that if it strike against any object, and falls to the ground, it may be easily taken. It feeds upon gnats, moths, and nocturnal insects of every kind, and appears only in the most pleasant evenings, when such prey is abroad. At other times it remains concealed in the chink of some dilapidated building, or hollow of a tree. Thus, even in summer, it sleeps away the greatest part of its time; never venturing out by day light, nor in

rainy weather; and its short life is still more abridged, by continuing in a state of torpidity during the winter; when it is frequently found hanging by its hooked claws, to the roofs or sides of caves, unaffected by every change of weather, and regardless of the eternal damps that surround it.—The varieties of this animal, particularly in England, are but few, and the differences scarcely worthy enumeration.

THE VAMPIRE.



OF foreign bats, this animal is the most curious and numerous; being larger than the former, and more deformed. It is a native of Africa and Madagascar, and is furnished with a horn like the rhinoceros bat. The other kinds generally resort to the forest, and the most deserted places; but these come into towns and cities, and, after sun-set, cover the street like a canopy. They are the common pest both of men and animals, effectually destroying the one, and often distressing the other. The inhabitants of these warm countries, are obliged by the excessive heat, to leave open the doors and windows of their bed-chambers, by which means the vampire enters; and if it finds any part of the body exposed; it invariably fastens upon it, insinuates its tooth into a vein, with all the art of the most experienced surgeon; and continues to suck the blood till it is satiated. And it frequently occurs that persons, when awaked from their sleep, (through loss of blood), have not sufficient strength left to bind up the orifice. The reason why the puncture is not felt, besides the great precaution with which it is made, is the gentle refreshing agitation of the bat's wings, which contributes to increase sleep, and soften the pain.

THE WEASEL.

THE weasel kind may be distinguished from other carnivorous animals, by the length and slenderness of their bodies, which are so fitted as to wind, like worms, into every small opening after their prey; and they have received the name of vermin, from their similitude to the worm in this particular. All of this kind are still more marked by their habitudes and dispositions than their external form. Cruel, voracious, and cowardly, they subsist only by theft, and find their chief protection in their minuteness; and, as the shortness of their legs renders them slow in pursuit, they owe their support to their patience, cunning, and assiduity. As their prey is precarious, they sometimes live a long time without food; and if they happen to fall in where it is plentiful, they destroy all about them' before they attempt to satisfy their appetite, and suck the blood of every animal before they begin to touch its flesh.

The weasel is the smallest of this numerous tribe; its length not exceeding seven inches from the tip of the nose to the insertion of the tail; yet even this length appears very great, when compared with the height of the animal, which is not above an inch and a half: the tail also, which is bushy, measures about two inches and a half, and adds to the apparent length of the body; the colour of the weasel is a pale redish brown on the back and sides, but white under the throat and the belly; the eyes are small and black; the ears are short and roundish, and the nose is furnished with whiskers, like those of a cat.

In its wild state, the night is the time during which this animal may be properly said to live. At the approach of evening, it is seen stealing from its hole, and creeping about the farmers' yards in quest of prey. If it enters the place where poultry are kept, it never attacks the cocks or the old hens, but immediately aims at the young ones, which it kills by a single bite near the head, and with a wound so small as scarcely to be perceptible.

It also breaks and sucks the eggs, and sometimes kills the hen that attempts to defend them. It makes war upon rats and mice with still greater success than the cat; for being more active and slender, it pursues them into their holes, and after a short resistance, destroys them. It is also particularly destructive to young pigeons, sparrows, and all kinds of small birds; and such is its avidity for animal food, that it even seems to delight in the vicinity of putrefaction.

THE FERRET.



THE ferret is about a foot long, and resembles the weasel in the slenderness of its body, and the shortness of its legs; but its nose is sharper, and its body smaller in proportion to its length; the hair on the tail is also much longer than in the weasel. It is commonly of a cream colour, but there are many varieties, as white, brown, party-coloured, &c.

This animal, being a native of the torrid zone, cannot bear the rigours of our climate, without care and shelter; but it generally repays the trouble of its keeping by its agility in the warren, where its business is to enter the holes, and drive the rabbits into the nets that are prepared for them at the mouth. For this purpose the ferret is always muzzled; for it is such an inveterate enemy of the rabbit kind, that if a dead one be presented to a young ferret, it instantly bites it, with an appearance of rapacity; or if it be living, the ferret instantly seizes it by the neck, winds itself round it, and continues to suck its blood till it be satiated.—They are usually fed with bread and milk, and kept in boxes of wool, with which they make themselves a warm bed, to defend them from the inclemency of winter. Upon the whole, the ferret is an useful, but disagreeable animal; its scent is foetid, its nature voracious, and its appetite for blood so strong, that it is dangerous to trust them among children.

THE BERBE.

THIS animal is about the size of the ferret. Its body is slender, and covered with hair of an ash-colour, mixed with tawny; the sides of the face are black; at the hind part of the head there are four black lines, extending from thence towards the shoulders; the tail is long and annulated with black; its eye is full, round, and black, which gives it a wild and mischievous aspect.—It inhabits the Island of Madagascar, Guinea, Cochin-China, and the Phillippine Isles. It feeds on flesh and fruits, but prefers the latter, and is peculiarly fond of banannas. It is very fierce, and not easily tamed.

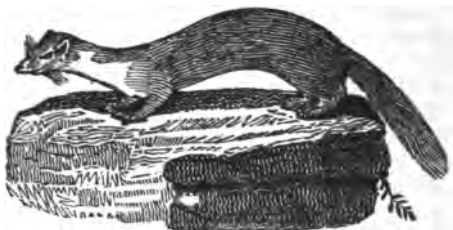
THE POLECAT.

THE polecat so nearly resembles the ferret in form, that some writers have supposed them to be one and the same animal; yet the distinctions between them are sufficiently obvious. This, for instance, is several inches longer than the ferret, and its body is not quite so slender. The prevailing colour is a deep chocolate; but the mouth and ears are diversified with white.

These animals are very destructive to young game of all kinds, and commit dreadful devastations among pigeons, when they succeed in getting into a dove-house. Without making so much noise as the weasel, they do a great deal more mischief; dispatching each victim a with single

wound in the head, and satiating themselves with copious draughts of blood, after which they carry off the prey; or if the aperture by which they entered will not admit of this, they carry away the heads, and make a delicious repast upon the brains. They are also extremely fond of honey, and are frequently known, in winter, to attack the hives, and drive away the bees. Rabbits, however, seem to be their favourite prey, and a single polecat is often sufficient to destroy a whole warren. In winter they frequent houses, and make a common practise of robbing the hen-roost and the dairy; but in general, they reside in woods, or thick brakes, making holes under ground of about two yards deep, commonly ending among the roots of large trees, for greater security.

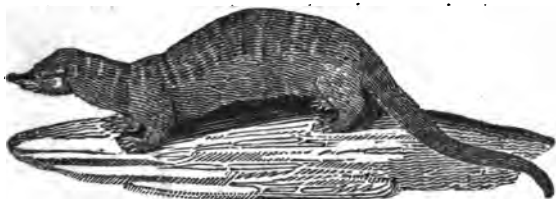
THE MARTIN.



THIS animal differs from the polecat, in being about four or five inches longer, its tail also is longer in proportion, and more bushy at the end; its nose is flatter; its cry is sharper and more piercing; its colours are more elegant; and its scent, instead of being offensive, is considered as a most agreeable perfume. The martin may indeed be stiled the most beautiful of all British beasts of prey. Its head is small and elegantly formed; its eyes are lively; its ears are broad, rounded, and open; its back, its sides, and tail, are covered with a fine downy fur, with longer hair intermixed; the roots of an ash colour, the middle of a bright chestnut, and the points black; the head is brown, with a slight cast of red; the legs and feet of a chocolate colour, and the throat and breast white. The claws are large and sharp, well adapted for the purpose of climbing, but, as in other animals of the weasel kind, incapable of being sheathed or unsheathed at pleasure.

These animals are found in all the northern parts of the world, from Siberia to Canada, and China. They are chiefly hunted for their skins; of which, it is said, that above twelve thousand are annually imported into England from Hudson's Bay, and above thirty thousand from Canada.

THE ICHNEUMON.

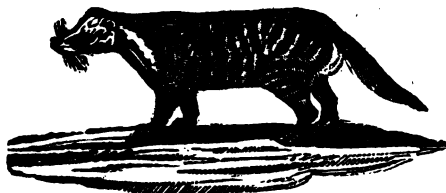


THE ichneumon is one of the boldest animals of the weasel kind; and in Egypt is kept for the same purposes that cats are in Europe. It is usually of the size of the martin, which it greatly resembles in appearance, except that the hair, which is of a grisly black, is much rougher and less downy, and the tail is not so bushy at the end. However, being long since brought into a domestic state, there are many varieties in this quadruped; some being much larger than the martin; others much less; some being of a lighter mixture of colours; and some being streaked, in the manner of a cat.

This animal, with all the strength of a cat, has more instinct and agility; a more universal appetite for carnage; and a greater variety of powers to procure it. Rats, mice, birds, serpents, lizards, and insects, are all equally pursued; it attacks every living thing which it is able to overcome, and indiscriminately preys on flesh of all kinds. Its courage is equal to the vehemence of its appetite, for it fears neither the force of the dog, nor the insidious malice of the cat, neither the claws of the vulture, nor the poison of the viper. It makes war upon all kinds of serpents with great avidity; and is particularly serviceable to the Egyptians in discovering and destroying the eggs of the crocodile.—This creature grows fast, and dies soon. It is an inhabitant of all the southern parts of Asia, from Egypt to Java, and is also found in Africa, particularly at the Cape of Good Hope.

THE GENET.

THIS animal resembles those of the weasel kind, in its length, compared to its height, in having a soft beautiful fur, in having its feet armed with claws that cannot be sheathed, and in its appetite for petty carnage; but it differs from them, in having a nose somewhat resembling that of a fox, and a tail tapering to a point. It is, in general, spotted with black, upon a ground mixed with red and grey; a sort of mane forms a black streak along the back; and the tail is marked with rings, alternately black and white, its whole length.—They are said to be very cleanly and industrious; and to keep houses perfectly clear from rats and mice, which cannot endure their smell. They require a warm climate to subsist and multiply in, yet they are chiefly confined to Spain and Turkey, and are never found in the warmer regions either of India or Africa.

THE CIVET.

THE civet resembles animals of the weasel kind in the slenderness of its body, the shortness of its legs, the softness of its fur, and the odorous matter that exudes from its glands; but it differs from them in its superior size, the formation of its nose, and the length of its tail, which tapers to a point. It is commonly of an ash colour,

spotted with black, but is sometimes streaked, as in the kind of cats called tabbies.

This animal, although a native of the warmest climates, is found to live in temperate, and even cold countries, provided it be fully defended from the injuries of the air; hence it is not only bred among the Turks, the Indians, and Africans, but great numbers are also bred in Holland, where the inhabitants make great gain by the perfume. The quantity which a single individual affords generally depends upon its health and nourishment; for it yields more in proportion as it is more delicately and abundantly fed. Its favourite food consists of fish, eggs, rice, birds, and raw flesh cut small; but it very rarely drinks.

The perfume of the civet is so strong, that it communicates itself to all parts of the animal's body, and the skin continues to preserve the odour for a long time after it is stripped off. It is taken from a pouch near the tail, and is of the colour and consistence of pomatum. That of Amsterdam is reckoned the purest of any; the people of other countries adulterating it with gums and other matters, which diminish its value but increase its weight.

The civet is said to be a wild, fierce animal; and, although sometimes tamed, is never thoroughly familiar.

THE RACCOON.



THE raccoon is about the size of a small badger; its body is short and bulky; the nose is rather shorter and more pointed than that of the fox: the fur is long and thick, blackish at the surface, and grey towards the bottom: the tail is thick, tapering towards the point, and regularly marked with rings of black; the fore-feet are much shorter than the hinder, and both are armed with five sharp claws.

Though short and bulky, this animal is very active; its pointed claws enabling it to climb trees with great facility, it runs on the trunk with the same swiftness that it moves upon the plain, and sports among the most extreme branches with equal ease and security. Its moves forward chiefly by bounding, and, though it proceeds in an oblique direction, it has speed enough most frequently to escape its pursuers.

In the southern parts of America, and particularly in Jamaica, these animals are very numerous, and do immense damage to the plantations: but when tamed, they are equally harmless, and amusing. The racoon is playful and cleanly; and, if left to itself, no cat can be a better provider; it examines every corner, eats flesh either boiled or raw, eggs, fruit, corn, or insects; and if left at liberty in a garden, it will feed upon snails, worms, and beetles; but it is particularly fond of sweets of every kind, and to obtain these, in its wild state, it incurs every danger.

THE RAT.



THE rat, though small, weak, and contemptible in its appearance, possess properties which render it a more formidable enemy to mankind, and more injurious to the interests of society, than even those animals that are endowed with the greatest strength and most rapacious dispositions. To the one we can oppose united powers and superior arts; with regard to the other, experience has convinced us, that no art can counteract the effects of its amazing fecundity, and that force is ineffectually opposed to an enemy possessed of such variety of means to elude it.

There are two kinds known in this country, the black rat, which was formerly universal here, but is now very rarely seen, having been almost extirpated by the large Norway rat.—This formidable invader is now universally diffused through the whole country; from whence every

method has been tried in vain to exterminate it.—It is about nine inches long; of a light brown colour, mixed with tawny and ash; the throat and belly are of a dirty white, inclining to grey; its feet are naked, and of a pale flesh colour; the tail is as long as the body, and covered with minute dusky scales, interspersed with short hairs.

It is a bold, fierce little animal; and, when closely pursued, will turn and fasten on its assailant.—Its bite is keen, and the wound it inflicts is painful, and difficult to heal, owing to the formation of its teeth, which are long, sharp, and of an irregular form.

The surest method of killing them is by poison; nuxvomica, ground, and mixed with oatmeal, with a small quantity of oil of rhodium and musk, have been found by experience to be the most effectual.



THIS well-known little animal is diffused in great numbers over almost every part of the world. It seems a constant attendant on man, and is only to be found near his dwelling. Its enemies are numerous and powerful, and its means of resistance weak and inconsiderable; its minuteness seems to be its best security; and it is saved from utter extinction only by its amazing fecundity.

The mouse brings forth several times in the year, and generally from six to ten at each litter. The young are produced without hair; and in a little more than fifteen days are able to subsist by themselves; so that their increase is prodigious.

This little animal, when viewed without the disgust and apprehension which usually accompanies the sight of it, is very beautiful; its skin is sleek and soft, its eyes bright and lively, all its limbs are formed with exquisite delicacy, and its motions are smart and active. Some few of this species are of a pure white colour; but whether they be a permanent kind, or only an accidental variety, cannot be well determined. Its appearance is, however, very beautiful; its fine full eyes, of a red colour, form an agreeable contrast with the snowy whiteness of its fur.

THE MUSK-RAT.



THIS animal is a native of Canada, where it is called the Ondatra. It is about the size of a rabbit; its head is thick and short, resembling that of a water-rat; its hair is soft and glossy; beneath the outward hair there is a thick fine down, very useful in the manufacture of hats; it is of a redish brown colour; its breast and belly ash, tinged with red; its tail is long and flat, covered with scales; its eyes are large; its ears short and hairy; it has two strong cutting-teeth in each jaw,—those of the under jaw are about an inch long, but the upper ones are shorter.

In many respects, it very much resembles the beaver, both in form and manners. It is fond of the water, and swims well.—At the approach of winter, several families associate together. They build little huts, about two feet in diameter, composed of herbs and rushes, cemented with clay, forming a dome-like covering; from these are several passages, in different directions, by which they go out in quest of roots and other food.—The hunters take them in spring, by opening their holes, and letting the light suddenly in upon them.—At that time their flesh is tolerably good, and is frequently eaten; but in the summer it acquires a scent of musk, so strong, as to render it perfectly unpalatable.

THE MUSCOVY MUSK-RAT,

Is about the size of the common rat; its nose is long and slender; it has no external ears, and its eyes are very small; the tail is compressed sideways, and its hind feet are webbed; it is of a dusky colour; the belly is of a light ash.—It is a native of Lapland and Russia, frequents the banks of rivers, and feeds on small fishes. It is often devoured by pikes and other fish; to which it communi-

cates so strong a flavour of musk, as renders them very unpleasant to the taste.

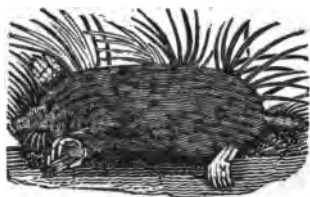
From its tail is extracted a kind of musk, very much resembling the genuine sort.—Their skins are frequently laid amongst clothes to preserve them from moths.—In Lapland, it is called the *desman*.

THE JERBOA.



THIS animal, remarkable for the singular construction of its legs, is found in Egypt, Barbary, and Palestine.—It is somewhat less than a rat; its eyes are large and full; the fore-legs are only one inch in length, and are used as hands to convey victuals to its mouth; the hind legs are naked, and very much resemble that of a bird, having only three toes on each, the middle one longest; its tail is much longer than its body, and terminated with a black tuft, the tip of which is white; its hair is long and soft, of a redish colour on the back; the under parts of the body are white: across the thighs there is a large black band, in the form of a crescent.

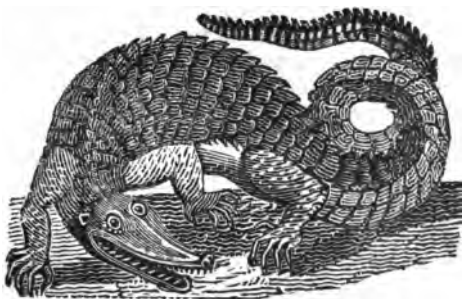
The motions of the Jerboa, are similar to those of the kangaroo. Its goes forward very nimbly on its hind feet, taking leaps of five and six feet from the ground. It is a lively, harmless animal, lives entirely on vegetables, and burrows in the ground like a rabbit. It is fond of warmth, making its nest of the finest and most delicate herbage; and seems sensible of the approach of bad weather by wrapping itself up close in hay, with its head between its thighs.—It sleeps during winter without nourishment.

THE MOLE.

THIS animal is larger than a mouse, with a coat of short, glossy, black hair. Its nose is long and pointed, resembling that of a hog, but much longer; its eyes are so small, as to be scarcely discernable; and it has no external ears. The body is thick and round, terminated by a very short tail; and its legs also are so extremely short, that the animal seems to lie flat upon its belly; the feet appearing as if they grew immediately out of the body. The fore legs are short and strong, furnished with five claws to each, and turned backward, as the hands of a man when swimming; the hind legs are longer and weaker, being only used to assist its motions, whereas the others are continually employed in digging.

Admirably fitted for a life of darkness and solitude, this animal has no appetites but what it can easily indulge, no enemies but what it can easily elude or conquer. When it has once buried itself in the earth, it seldom stirs out, unless disturbed by violent rains in summer, or when in pursuit of prey, it happens to come too near the surface, and thus gets into the open air. In general it chooses the looser softer grounds, beneath which it can travel with facility, and in which it finds the most ample supply of worms and insects.—The female usually produces about the beginning of May; and in order to form a retreat for the reception of her young, she begins by erecting the earth into a tolerably spacious apartment, supported at a proper distances by partitions, that prevent the roof from falling. She then procures grass and dry leaves, as a bed for her offspring, and carefully prepares several subterraneous paths, by which she may convey them, if necessary, beyond the reach of an invading enemy.

The varieties of this animal are but few; some, however, are seen in Poland which are perfectly white, and those of Virginia are of a black colour mixed with a deep purple.

THE CROCODILE.

AMPHIBIOUS quadrupeds, though covered with hair in the usual manner, are in general furnished with membranes between the toes, which assist their motion in the water; their paws are broad, and their legs short, by which they are more completely fitted for swimming, for, taking short strokes at a time, they make them oftener and with greater rapidity. Some of these animals are more adapted to live in the water than others; but as their power increases to live in the deep, their unfitness for living upon land increases in the same proportion. They all, however, get their subsistence in the water, either by habit or conformation; and all consider that element as their proper abode; whenever pressed by danger, they retire to the water for security; and when upon land, appear watchful, timorous, and unweildy.

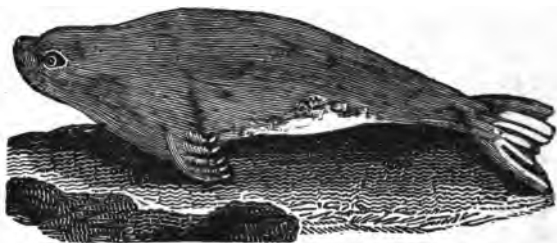
Of this species, the creature most to be dreaded is the crocodile. The tail of this animal is two-edged; the feet triangular, the fore ones having five, and the hinder only four toes. Within the mouth of this beast are two jaws of numerous sharp-pointed teeth, thirty or more on each side; its eyes are large and fiery, projecting out of the head, and secured with an osseous orbit, but immovable, so that they can only see as they walk straight forward. The upper part of the snout and forehead consists of one fixed bone, reaching to the ears, which are broad, surrounded with a little border, and growing near the joint of the upper jaw, where also the largest scales begin.

The armour with which the upper part of the body is coated, may be accounted among the most elaborate pieces of Nature's mechanism. In the full-grown animal

it is so strong as easily to repel a musket-ball; on the lower part, it is much thinner and more pliable. The whole animal appears as if covered with the most curious carved work. The colour of the full-grown crocodile is blackish-brown above, and yellowish-white beneath; the upper parts of the legs and sides are varied with deep yellow, and in some parts tinged with green.

The crocodile and alligator (the latter being so exactly like the former in its form and natural propensities, that we shall decline its history), have the largest mouths of almost any animals. It has been asserted by various writers, that both their jaws are moveable; a single glance, however, at their skeletons, will afford sufficient proof that the upper jaw is fixed, and that the motion is altogether confined to the under jaw. They are also generally believed to have no tongue; this again is an error, for the tongue in both species is even larger than that of the ox; but it is so connected with the sides of the lower jaw as to be incapable of being stretched far forwards, as in other animals.—In various parts of Asia and Africa, they exceed twenty feet in length; and chiefly haunt such large rivers as the Niger, Ganges, Nile, or near the seashore; they are exceedingly voracious, but capable of sustaining abstinence for many weeks together.

THE SEAL.



THE seal resembles a quadruped in some respects, and a fish in others. The head is round, the nose broad, the eyes large and sparkling, and the neck well proportioned, and of a moderate length; but the body is thickest where the neck is joined to it; from thence the animal tapers down to the tail, growing all the way smaller, like a fish. The whole body is covered with a thick shining hair,

which looks as if it were entirely rubbed over with oil; and thus far the quadruped prevails over the aquatic. But it is in the feet that this animal differs widely from all the rest of the quadruped kind; for they are so stuck on the body, and so covered with membrane, that they seem to resemble fins rather than feet, and might be pronounced such, did not the claws with which they are pointed shew their proper analogy.

These animals differ considerably in size, being found from four to nine feet long; they also vary in their colours; some being black, others white, some spotted, and many yellow. It would therefore be almost endless to enumerate their varieties.—Their chief food consists of fish, and they are remarkably expert in pursuing and catching it. In those places where herrings are seen in shoals, the seals destroy them by thousands; and when these retire, they are obliged to hunt after fish that are stronger, and more capable of evading pursuit.—They are taken for the sake of their skins, and the oil their fat yields.

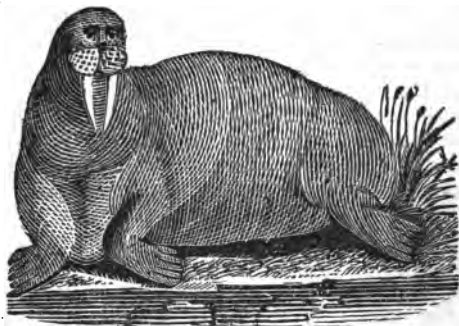
THE URSINE-SEAL.



THE males of this species are, in general, about eight feet long, but the females are much smaller. Their bodies are very thick, and the colour of the hair is commonly black, but that of the old ones is tipped with grey, and many of the females are ash-coloured. The nose projects like that of a pug-dog, and the eyes are large and prominent. Their voice varies on different occasions; thus, when diverting themselves on their native rocks, they low like a

cow; when engaged in battle, they utter a hideous growl; after a defeat, they mew like a cat; and the note of triumph after a victory, somewhat resembles the chirping of a cricket.—These animals are chiefly found on the islands in the vicinity of Kamtschatka, from June to September: after which they remove, some to the Adriatic, and some to the American shore.

THE MORSE.



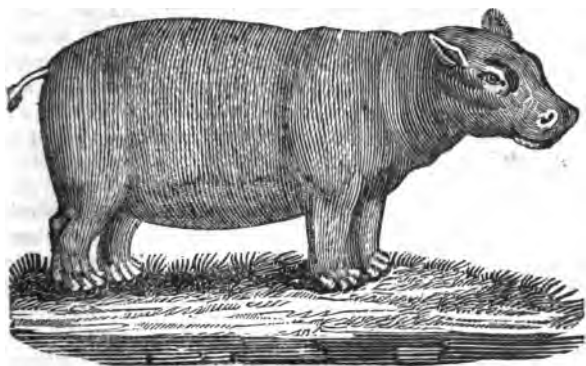
THE morse, or walrus, is an animal of the seal kind, but differing from the rest in a very particular formation of the teeth, having two large tusks growing from the upper jaw, shaped like those of an elephant, but directed downwards: as the rest, it nearly resembles the seal, except that it is much larger, being from twelve to sixteen feet long. It has also the same habitudes, advantages, and imperfections; and frequents the same places that seals are known to reside in.—The females defend their offspring at the risk of their lives, whether in the water or upon the ice; nor will the young ones quit their dam, even though she be dead; so that if one be killed, the other is certain prey.

THE SEA-LION.

THIS variety is larger than the former; being from eleven to eighteen feet long, and so extremely fat, that when the skin is taken off, the blubber lies a foot thick all round the body. It is, in general, of a redish brown colour,

and is distinguished by a large mane, which covers the head and neck of the male, and from which it has received the name of the sea-lion.—These animals reside in families distinct from the common seal; each male having from two to four females, which he treats with great affection. They do not, as has been supposed, graze on shore; but their food consists entirely of fish, penguins, and marine animals. During the breeding season they are said to fast for a long time, and to become extremely emaciated; but at intervals they swallow large stones, for the purpose of keeping the stomach distended.—The flesh of the young is said to be excellent food, and their fat is as delicious as marrow.

THE HIPPOPOTAMUS.



The hippopotamus is an animal as large, and not less formidable than the rhinoceros. Its form is very uncouth, the body being large, round, and clumsy; the head very bulky; the mouth prodigiously wide and disproportioned; the eyes and ears small; the legs remarkably thick; and the tail short, flat, and tapering to a point. The body is covered over with a few scattered hairs, of a whitish colour, and the hide is impenetrable to the blow of a sabre.

This animal, however, seems no way disposed to exert its prodigious strength against an equal enemy; but chiefly resides at the bottom of the great rivers or lakes of Africa: where it leads an indolent kind of life, and

appears seldom disposed for action, except when excited by the cravings of hunger. Upon these occasions three or four of them are often seen at the bottom of a river, near some cataract; forming a kind of a line, and seizing upon such fish as are forced down by the violence of the stream. In that element they pursue their prey with equal perseverance and celerity; as they swim with great force, and remain at the bottom for thirty or forty minutes, without rising to take breath.

As, however, it frequently happens that this animal's fishy food is not supplied in sufficient quantity, it is then compelled to come upon land; where it is an awkward and unweildy stranger, and, as it seldom forsakes the margin of the river, it sinks at every step it takes. Sometimes, indeed, it is forced by famine into the higher grounds; where it commits dreadful havock among the plantations, while the helpless natives see their possessions destroyed without daring to resist the invader; for if they happen to wound, or irritate it too closely, it overturns whatever it meets, and puts forth all its strength, which it seemed not to have discovered before that dangerous occasion. It possesses the same disposition in its favourite element, that it is found to have upon land; for although it is never known to attack the mariners in their boats, as they go up or down the stream; yet if they inadvertently strike against it, or otherwise disturb its repose, there is much danger of its sending them at once to the bottom.—The female brings forth her young upon land, and it is supposed that she seldom produces more than one at a time.

THE OTTER.

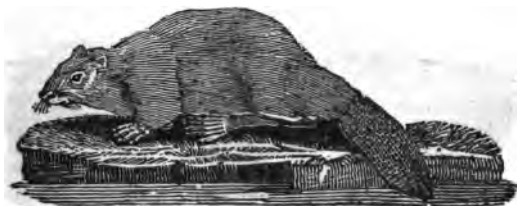


THE colour of this animal is brown, and it is somewhat of the shape of an overgrown weasel, being long, slender, and soft-skinned. Its usual length is about two feet from

the tip of the nose to the insertion of the tail; the head and nose are broad and flat; the mouth bears some similitude to that of a fish; the neck is short, and equal in thickness to the head; the body is long; the tail broad at the insertion, but tapering off to a point; the eyes are very small, and placed nearer the nose than usual in quadrupeds. The legs are very short, but remarkably strong, broad, and muscular; and each foot is furnished with five toes, connected by strong broad webs, like those of the water-fowl.

These voracious animals are generally found at the sides of lakes and rivers, but particularly the former, as they are seldom fond of fishing in a running stream. In lakes they destroy much more than they devour, and will sometimes spoil a pond in the space of a few nights. The damage these creatures do, however, by destroying fish, is not so great as their tearing in pieces the fishermens' nets, which they infallibly do, whenever they happen to get entangled in them.—The female goes with young about nine weeks, and generally produces three or four at a time. These are always found at the edge of the water; and, if under the protection of the dam, she teaches them on the approach of an enemy, to plunge like herself, into the deep, and escape among the weeds or rushes that fringe the stream. It is, therefore, only in the absence of the dam, that the young can be taken; and in some places there are dogs purposely trained for discovering their retreats.

THE BEAVER.

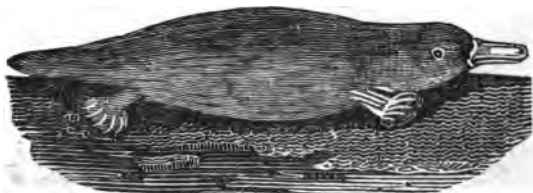


THE beaver is the only quadruped that has a flat broad tail, covered with scales, which serves as a rudder to direct its motions in the water; and that has membranes between the toes on the hind feet only, and none on the

fore feet, which supply the place of hands, as in the squirrel: it is about two feet long, and nearly a foot high; its colour is a light brown, the hair of two sorts; the one long and coarse, the other soft, short, and silky; the teeth resemble those of a rat or a squirrel, but are longer, and admirably adapted for cutting timber, or stripping bark; to which purpose they are continually applied.

These animals begin to assemble about the months of June and July to form a society that is to continue for the greatest part of the year. They arrive in numbers from every side, and generally form a company of above two hundred. Their rendezvous is commonly the place where they fix their abode, and this is always by the side of some lake or river, which is made with astonishing ingenuity. Persons who are accustomed to hunt these animals, know perfectly well that green wood is much more acceptable to them than that which is old and dry. Hence they plant a considerable quantity of it round their lodgments; and as they come out to partake of it, they either catch them in snares, or take them by surprise. In winter, when the frosts are very severe, they sometimes break a large hole in the ice; and when the beavers resort hither for the benefit of fresh air, they either kill them with hatchets, or cover the aperture with a large substantial net. After this they undermine and subvert the whole fabric; upon which the beavers flee with the utmost precipitation to the water, and plunging into the opening, fall directly into the net.

THE DUCK-BILLED PLATYPUS.



Of all the treasures in Natural History with which the new world is gradually enriching our museums, it is probable that none has hitherto been discovered, differing so much, in its general appearance, from every other

known animal, as the duck-billed platypus.—The body is depressed, and has some resemblance to that of an otter in miniature; it is covered with a black soft fur, and is of a dark brown above, and of a ferruginous white beneath; the head is flattish, and the snout so exactly resembles that of some broad-billed species of the duck, that it might easily be mistaken for such: the tail is flat, furry, and in colour like that of the body: the length of the whole animal, from the tip of the beak or snout, to that of the tail, is thirteen inches; of the beak, an inch and a half: the legs are very short, terminating in a broad web, which on the fore feet extends to a considerable distance beyond the claws; but on the hind feet reaches no farther than the roots of the claws. On the upper part of the head, on each side, a little beyond the beak, are situated two oval white spots, in the lower part of each of which are embedded the eyes, or at least the parts allotted to the animal for some kind of vision.

From the general form of this animal, and particularly its bill and webbed feet, we naturally conclude, that it resides in watery situations; that it has the habit of digging or burrowing in the banks of rivers, or under ground; and that its food consists of aquatic plants and animals.

THE NYL-GHAU.



THIS animal is a native of the interior parts of India. It seems to be of a middle nature, between the cow and the deer, and carries the appearance of both in its form: in size, it is as much smaller than the one, as it is larger than

the other; its body, horns, and tail, are not unlike those of a bull: and the head, neck, and legs, are similar to those of a deer. The colour, in general, is ash or grey, from a mixture of black hairs and white; all along the ridge or edge of the neck, the hair is blacker, longer, and more erect, making a short, thin, and upright mane, reaching down to the rump; its horns are seven inches long, six inches round at the root, tapering by degrees, and terminating in a blunt point: the ears are large and beautiful, seven inches in length, and spread to a considerable breadth; they are white on the edge and on the inside, except where two black bands mark the hollow of the ear with a zebra-like variety. The height of this animal at the shoulder, is four feet one inch; behind the loins, it only measures four feet.

The female differs considerably from the male, both in height and thickness, and is much smaller; in shape and colour it very much resembles a deer, and has no horns; she has four nipples, and is supposed to go nine months with young: she has commonly one at a birth, and sometimes two.—These animals are frequently brought from the interior parts of Asia, as rare and valuable presents to the nabobs and other great men, at our settlements in India.



NATURAL HISTORY

OF

BIRDS.



NATURALISTS have divided birds into six classes, viz. the rapacious, the pie, the poultry, the sparrow, the duck, and the crane kind; the four first, comprehending the various kinds of land birds; the two last, those that belong to the water.

Such is the division of Linnæus, with respect to this class of animals; and at first sight it appears natural and comprehensive: but should the young student enter deeper into this naturalist's plan, he would find birds the most unlike in nature thrown into the same class. We shall therefore endeavour to observe a more natural method; and, keeping the general division in view, enter into some description of such birds as are most noted, or most worthy of observation.

Under one class or another, as they may be treated, the reader will probably find all the species; and when the leader of any tribe is described and its history given, it will convey a very tolerable idea of all the varieties contained under it.

By the rapacious kind, is to be understood that class of carnivorous fowl that subsist by rapine. They are distinguished by their beak, which is hooked, strong, and notched at the point; by their legs, which are short, muscular, and adapted for the purposes of tearing; by their talons, which are sharp and crooked; by their flesh, which is impure; and by their manners, which are fierce and cruel.—But, however, before we enter into a systematical detail, we beg leave to give the history of three or four birds which do not well arrange in any system; as, from their size, and their incapacity of flying, they lead a life materially differing from the rest of the feathered creation.—The foremost of these are

THE OSTRICH.

IN taking a survey of the feathered tribe, the first animal that demands our attention seems to unite in itself the class of quadrupeds with that of birds, and to form a connecting link in the great chain of animated nature. In appearance it resembles the camel; it is covered with a plumage more like hair than feathers; and its internal parts bear as near a similitude to those of the quadruped as of the bird creation.

The ostrich is generally seven feet high, from the top of the head to the ground, but from the back it is only four; so that the head and neck are above three feet long. From the top of the head to the rump, when the neck is stretched out in a right line, the length is six feet, and that of the tail about a foot more. One of the wings, when stretched out, is about three feet; and at the end of each wing there is a kind of spur, almost like the quill of the porcupine. The plumage is generally black and white; the upper part of the head and neck are covered with fine white hair, and in some places there are small tufts of it, which grow from a single shaft, about the thick-

ness of a pin. The neck of this animal, which is of a livid flesh colour, seems to be more slender in proportion than that of other birds, from its not being furnished with feathers; the head and bill somewhat resemble those of a duck, and the external form of the eye is like that of a man's, the upper eye-lids being adorned with lashes which are longer than those on the lid below. The thighs are large, fleshy, and wrinkled in the manner of a net; the legs are covered before with large scales; the foot is cloven, and has two toes of unequal sizes.

These animals seem formed to live among the sandy and arid deserts of the torrid zone; and in the formidable regions they are seen in large flocks, which to the distant spectator, appear like a regiment of cavalry, and have often alarmed a whole caravan. There is no spot, however sterile, but what is capable of supplying them with provision; as they are of all creatures the most voracious, and possess surprising powers of digestion. Hence they will devour leather, hair, stones, or any thing that is given, and those substances which the coats of the stomach cannot soften, are excluded in the form in which they were swallowed. In their native deserts, however, they are supposed to subsist principally upon vegetables. In Lydia, they are used for travelling; and when mounted by men, will go swifter than a race-horse.

THE EMU.

THE emu is only second to the ostrich in magnitude, and is by much the largest bird in the new continent. It is generally about six feet high, measuring from its head to the ground: the head is small, the neck long, the form of the body round, and the wings short, and entirely unfit for flying: its thighs are remarkably thick; its legs are three feet long; and it differs from the ostrich in having an additional toe on each foot. It has no tail, but is covered from the back with long feathers which fall backward and cover the rump. It moves very swiftly; but in its course it uses a very odd kind of action, lifting up one wing, which it keeps elevated for a time, till letting it drop, it raises the other. The fleetest hounds are frequently thrown out in pursuing it; and we are told of one, which on being surrounded by the hunters, darted among the dogs with such irresistible fury, that they immediately gave way, and thus enabled it to escape in safety.

THE CASSOWARY.

THIS bird, though not so large as the former, appears more bulky to the eye; its body being nearly equal, and its neck and legs much thicker in proportion. It is about five feet and a half long, from the point of the bill to the extremity of the claws; the head and neck together are eighteen inches; the legs are two feet and a half; and the largest toe, including the claw, is five inches long. The wing is armed with five prickles of different lengths, but is so small that it does not appear, being concealed under the plumage of the back. The feathers are generally double, having two long shafts issuing from a short one which is fixed in the skin. The beards at the end of the large feathers are perfectly black, under which there is a kind of down, of a tawny colour.

The most singular part of this animal, however, is the head, which, though small, like that of the ostrich, is calculated to inspire some degree of terror; it is bare of feathers, and armed with a sort of horny helmet, black before and yellow behind. The colour of the eye is a bright yellow, and the globe being nearly an inch and a half in diameter, renders the countenance equally singular

and formidable. The bill is of a greyish brown; the neck of violet colour, inclining to slate, and the claws black without, and white within. It may also be observed, that about the middle of the neck there are two protuberances, formed by the skin, somewhat resembling the gills of a cock, but that they are blue as well as red. To sum up the whole, it has been observed that the cassowary unites in itself the head of a warrior, the eye of a lion, the defence of a porcupine, and the swiftness of a courser.— Its mode of running is very singular; for instead of going directly forward, it seems to kick up behind with one leg, and then makes a bound with the other. It is a native of the East Indies, in which part of the world it is only to be found.

THE DODO.



THIS creature strikes the imagination as one of the most unweildy and inactive in nature. Its round and massive body is barely supported upon two short thick legs, like pillars; while its neck and head rise from it in a manner truly grotesque. The bill is of an extraordinary length, of a bluish white colour, and resembling, in its formation, two pointed spoons laid together by the backs. From all this results a stupid and voracious aspect, still further increased by a border of feathers round the beak, which forms a sort of hood, and completes the picture of stupid deformity.

The dodo seems weighed down by its own heaviness, and has scarcely strength to urge itself forward. Its

wings, covered with soft ash-coloured feathers, are too short to assist it in flying; its tail, consisting of a few curled feathers, is displaced and disproportionate, and its legs are too short for running; in a word, it seems among the feathered race what the sloth is among quadrupeds, an unresisting creature, equally incapable of flight or defence. It is a native of the Isle of France; and the Dutch, who first discovered it there, called it, in their language, the nauseous bird, as well from its disgusting figure, as from the bad taste of its flesh.

THE CONDOR.



BIRDS of the rapacious order are all carnivorous; they associate in pairs, build their nests in the most lofty situations, and the female is generally larger than the male.

If size and strength, combined with rapidity of flight and rapacity, were allowed to deserve pre-eminence, no bird could be put in competition with the condor of America, which possesses, in a higher degree than the eagle, all the qualities that render it formidable, not only to the feathered kind, but to beasts, and even to man himself.—The wings of this bird measures twelve feet three inches from tip to tip, and the great feathers, which are of a beautiful shining black, are two feet four inches long: the length of the beak is about four inches, and its thickness proportionable to the rest of the body: a short down

of a brown colour, clothes the head, and its eyes are surrounded with a circle of redish brown. The plumage on the breast, neck, and wings, is of a light brown; that on the back, rather darker. The legs are covered with black scales, and the toes are armed with claws of the same colour.

In several parts of the mountains of Quito, these animals have been known to carry away sheep and children; and to prevent which, requires the utmost exertion of the inhabitants and shepherds.

THE GOLDEN EAGLE.



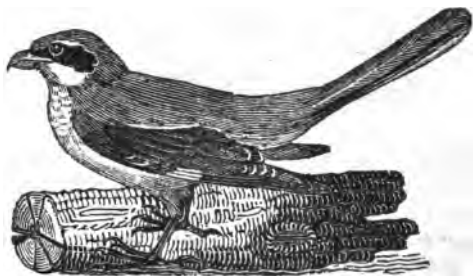
THE golden eagle, which is one of the largest of this noble family, is about three feet in length, and the extent of its wings is seven feet four inches. The head and neck are clothed with narrow-pointed feathers, of a deep brown colour, bordered with tawny; the whole body also is of a dark brown, the back being finely clouded with a deeper shade of the same; the tail is brown, and irregularly barred with an obscure ash colour: the beak is of a deep blue, and the eye of an hazel colour: the legs are yellow, strong, and feathered to the very feet; and the toes are armed with formidable claws.

This fierce animal may be considered among birds as the lion among quadrupeds; and in many respects they exhibit a strong similitude. Equally magnanimous, they condemn petty plunder, and only pursue animals worthy their conquest. The eagle disdains to share the plunder of another bird; and, whatever may be the calls of hunger, he never stoops to carrion, but leaves it for other animals more rapacious and less delicate than himself. Nor does the similitude of these creatures stop here; they both have sparkling eyes, and nearly of the same colour; their claws are of the same form; their breath equally strong, and their cry alike vociferous and terrifying.

The nest of this bird is usually built in the most inaccessible cliff of a rock, and generally shielded from the weather by some jutting crag that hangs over it. The period of incubation is said to be thirty days; and when the young are hatched, both the male and female exert all their industry to provide for their wants.

In the rear of this terrible bird may be considered the ring-tailed eagle, common eagle, bald eagle, rough-footed eagle, erne, and black eagle. But though these, and others that might be enumerated, form different shades in this fierce family, they have all the same rapacity, the same general form, the same habits, and the same manner of bringing up their young.

THE BUTCHER-BIRD.



THIS bird is about the size of a thrush; and has a strong black bill, nearly an inch long, and hooked at the end, which, together with its carnivorous appetites, ranks it among birds of the rapacious class; though the slenderness of its legs, and the formation of its toes, seem to

make it a shade between them and such as subsist chiefly upon grain and insects. The feathers on the upper part of the body are of a redish ash-colour; those on the breast are white, diversified with a few dark-coloured lines.—The habits of this bird are perfectly analagous to its conformation, as it lives as well upon flesh as upon insects, and thus it partakes, in some measure, of a double nature.

The nest of the female is composed on the outside of white moss interwoven with long grass, and the interior is comfortably lined with wool. It is also worthy of remark, that instead of driving out their young, like other birds of prey, to shift for themselves, they keep them with care, and even when adult they do not forsake them, but the whole brood live in one family together, till on the returning season of courtship they separate, each to establish a little household of its own.

THE VULTURE.



THE golden vulture, which seems to be the foremost of the tribe, is about four feet and a half long, from the end of the beak to that of the tail: on the head and neck only, are to be seen a few scattered hairs, and the eyes are more prominent than those of the eagle: the plumage on the breast and belly is of a redish colour; the back is black, but the tail and wings are of a yellowish brown.

This cruel, unclean, and indolent bird, though totally unknown in England, is common in many parts of Europe; and in Egypt, Arabia, and many other kingdoms of Africa and Asia, vultures are found in great abundance. In Egypt, and particularly in Grand Cairo, there are great flocks of them, which render a most important service to the inhabitants, by devouring all the filth and carrion which might otherwise render the air pestilential.

In Brazil, these birds may be deemed peculiarly serviceable, from the circumstance of their checking the increase of the crocodile tribe. The female crocodile frequently lays her eggs, to the number of one or two hundred, on the side of a river, and covers them carefully with the sand, to conceal them from all other animals. In the mean time a number of vultures watch her motions from the branches of some neighbouring forest, and on her retiring, they encourage each other with loud cries, pour down upon the spot, lay the eggs bare, and devour them in a few moments.

Vultures make their nests in the most remote and inaccessible rocks, and produce but once a year. Those of Europe, indeed, seldom come down into the plains, except when the rigours of winter have banished from their native retreats all living animals but themselves. Their flesh is lean, stringy, and altogether nauseous.

The varieties of this tribe are the ash-coloured and the brown vulture of Europe; the spotted and the black vulture of Egypt; the bearded vulture; the Brazilian vulture; and the king of the vultures, of South America. These, however, all agree in their nature and habitudes, being equally indolent, filthy, and rapacious.

THE SECRETARY FALCON.

THIS curious bird resembles the common falcon in its head, bill, and claws; but its legs are so long, that, when standing erect, it is not much unlike the crane. The general colour of the plumage is a bluish ash; the tips of the wings, the thighs, and the vent, inclining to black. On the back of the head are several long dark coloured feathers hanging down behind, and capable of being erected at pleasure. This crest induced the Dutch colonists at the Cape to give it the name of the secretary; the Hottentots, however, style it the serpent-eater, from the avidity with which it seizes and devours those noxious reptiles.

THE OSPREY, OR SEA-EAGLE.

THIS bird is nearly as large as the golden eagle, measuring in length three feet and a half, but its expanded wings do not reach above seven feet. Its bill is large, much hooked, and of a bluish colour; the irides, in some, light hazel; in others, yellow: a row of strong bristly feathers hang down from its under bill next to his throat, whence it has been termed the bearded eagle; the top of the head and back part of the neck are dark brown, inclining to black; the feathers on the back are variegated by a lighter brown, with dark edges; the scapulars are pale brown, the edges nearly white; the breast and belly whitish, with irregular spots of brown; the tail feathers are dark brown; the outer edges of the exterior feathers, whitish; the quill feathers and thighs are dusky; the legs and feet, yellow; the claws, which are large, and form a complete semicircle, are of a shining black.

It is found in various parts of Europe and America; it is said to lay only two eggs during the whole year, and frequently produces only one young bird; it is, however, widely dispersed, and was met with at Botany Island by Captain Cook. It lives chiefly on fish; its usual haunts are by the sea shore; it also frequents the borders of

large lakes or rivers; and is said to see so distinctly in the dark, as to be able to pursue and catch its prey during the night.

THE KITE.



OF all obscene birds, the kite is the best known, and may be easily distinguished from the rest of the tribe by its forked tail, and slow floating motion, seeming almost for ever upon the wing; it appears, indeed, to rest itself upon the air, without making the smallest effort in flying. As almost every bird of the air is able to elude its pursuit, it subsists only upon accidental carnage; and may be considered as an insidious thief, who, on finding a small bird wounded, or a young chicken straying from its mother, improves the moment of calamity to its own advantage. Sometimes indeed its hunger urges it to acts of desperation. We have seen one fly round and round, for a while, to mark a clutch of chickens, and then suddenly dart upon the unresisting little animal, and carry it off; the parent hen in vain crying out, and the boys hooting and casting stones, to scare it from its plunder.

This bird is common in England, where it continues the whole year. It is found in various parts of Europe, in very northern latitudes, whence it retires towards Egypt before winter, in great numbers; it is said to breed there, and return in April to Europe, where it breeds a second time, contrary to the nature of rapacious birds in general. The female lays two or three eggs, of a whitish colour, spotted with pale yellow, and of a roundish form.

THE COMMON BUZZARD.

NATURALISTS have distinguished the buzzards from the eagles and hawks by their habits and dispositions, which they compare to those of the vultures, and place them after those birds. Though possessed of strength, agility, and weapons to defend themselves, they are cowardly, inactive, and slothful; they will fly before a sparrow-hawk, and when overtaken, will suffer themselves to be beaten, and even brought to the ground, without resistance.

The buzzard is about twenty inches in length, and four feet in breadth, from tip to tip of the wings: its head is large, and armed with a short hooked bill. The plumage on the upper part of the body is of a darkish dun; the belly of a yellowish white, with rusty spots on the breast: the thighs are large, and feathered below the knee; and the legs and feet are covered with scales.

This bird is well known in England, and is of a sedentary and indolent disposition; it continues for many hours perched upon a tree or eminence, whence it darts upon the game that comes within its reach: it feeds upon small quadrupeds, reptiles, and insects. Its nest is constructed with small branches, lined in the inside with wool and other soft materials; it lays two or three eggs, of a whitish colour, spotted with yellow. It feeds and tends its young with great assiduity.

THE MOOR-BUZZARD.

· **THIS** bird's length is about twenty-one inches: the bill is black; ceres and eyes, yellow; the whole crown of the head is of a yellowish white, lightly tinged with brown; the throat is of a light rust colour; the rest of the plumage is of a redish brown, with pale edges; the greater wing-coverts are tipped with white; the legs are yellow; and the claws black.

The moor-buzzard preys on rabbits, young wild ducks, and other water fowl; and likewise feeds on fishes, frogs, reptiles, and even insects; its haunts are in hedges and bushes, near pools, marshes, and rivers, that abound with fish. It builds its nest a little above the surface of the ground, or in hillocks covered with thick herbage: the female lays three or four eggs of a whitish colour, irregularly sprinkled with dusky spots. Though smaller, it is more active and bold than the common buzzard; and when pursued, it faces its antagonist, and makes a vigorous defence.

Birds of this kind vary much; in some the crown and back part of the head are yellow; and some have been seen uniformly of a chocolate brown, with a tinge of rust colour.

THE FALCON.

THIS is a very elegant bird, and is larger than the goshawk. Its bill is much hooked, and yellow; the iris is dusky; the throat white, as is likewise the general colour of the plumage, but spotted with brown; the breast and belly are marked with lines, pointed downwards; the spots on the back and wings are larger; the feathers on the thighs are very long, and of a pure white; those of the tail are barred; the legs are of a pale blue, and feathered below the knee. This bird is a native of the cold and dreary climates of the north, and is found in Russia, Norway, and Iceland: it is never seen in warm, and seldom in temperate climates: it is found, but rarely, in Scotland and the Orkneys. Next to the eagle, it is found to be the most formidable, the most active, and the most intrepid of all voracious birds, and is the dearest, and most esteemed for falconry. It is transported from Iceland and Russia into France, Italy, and even into Persia and Turkey; nor does the heat of those climates appear to diminish its strength or blunt its vivacity. It boldly attacks the largest of the feathered race; the stork, the heron, and the crane, are easy victims; it kills hares by darting directly upon them. The female, as in all other birds of prey, is much larger and stronger than the male, which is used in falconry to catch the kite, the heron, and the crow.

There is another of this tribe, called the peregrine, or passenger falcon, which is rarely met with in Britain, and consequently is but little known with us: it is about the

size of the former; its bill is blue, black at the point; ceres and irides yellow; the upper parts of the body are elegantly marked with bars of blue and black; the breast is of a yellowish white, marked with a few small dusky lines; the belly, thighs, and vent, are of a greyish white, crossed with dusky bands; the quills are dusky, spotted with white; the tail is finely barred with blue and black; the legs are yellow; and the claws black.

THE GOSHAWK.

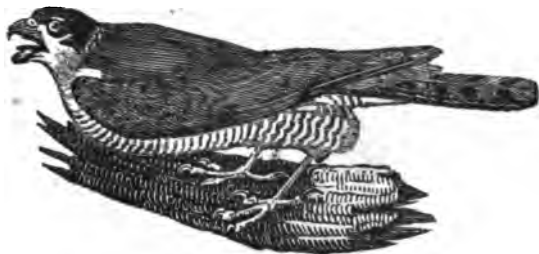


THIS bird is somewhat longer than the buzzard, but slenderer and more beautiful; its length is one foot ten inches: its bill is blue, tipped with black; ceres green; and eyes yellow: over each eye there is a whitish line: the head, and all the upper parts of the body, are of a deep brown colour; each side of the neck is irregularly marked with white: the breast and belly are white, with a number of wavy lines, or bars of black; the tail is long, of an ash colour, and crossed with four or five dusky bars, the legs are yellow, and the claws black; the wings are much shorter than the tail.—It feeds on mice and small birds, and eagerly devours raw flesh; it plucks the birds very neatly, and tears them into pieces before it eats them, but swallows the pieces entire; and frequently disgorges the hair rolled up in small pellets.

The goshawk is found in France and Germany; it is not very common in this country, but is more frequent in Scotland; it is likewise common in North America, Russia,

and Siberia: in Chinese Tartary there is a variety which is mottled with brown and yellow, that are used for sporting by the nobility.

THE SPARROW-HAWK.



THIS bird is somewhat larger than a common pigeon: the bill is short and hooked, the tail rather long, and the legs slender and of a redish colour. The plumage on the wings and upper parts of the body is brown, spotted with a yellowish dun; the lower parts in some are whitish; in others of a russet colour.

The female builds her nest in hollow trees, high rocks, or lofty ruins, sometimes in the old nest of a crow, and generally lays four or five eggs marked with redish spots at the longer end. Its bill is blue, and furnished with bristles at the base, which overhang the nostrils; the colour of the eye is bright orange; the head is flat at the top, and above each eye is a strong bony projection; a few scattered spots of white form a faint line running backwards towards the neck: the top of the head and all the upper parts of the body are of a dusky brown colour; on the back part of the head there is a faint line of white; the scapulars are marked with two spots of white on each feather; the greater quill feathers, and the tail, are dusky, with four bars of a darker hue on each; the inner edges of all the quills are marked with two or more large white spots; the tips of the tail feathers are white; the breast, belly, and under coverts of the wings and thighs, are white, beautifully barred with brown; the throat is faintly streaked with brown: the legs and feet are yellow; claws black.

The sparrow-hawk is very numerous in various parts of the world, from Russia to the Cape of Good Hope. It

can easily be made obedient and docile, and trained to hunt partridges and quails; it makes great destruction among pigeons, young poultry, and small birds of all kinds, which it will attack and carry off in the most daring manner.

THE MERLIN.



THE merlin is the smallest of the hawk kind, scarcely exceeding the size of a blackbird. Its bill is blue; cere and irides yellow: the head is of a rust colour, streaked with black, and edged with rust colour; the quill feathers, dark, tipped and margined in the inner webs with redish white; the breast and belly are of a yellowish white, with streaks of rusty brown pointing downwards; the tail is long, and marked with alternate dusky and pale bars; the wings, when closed, do not reach quite to the end of the tail: the legs are yellow; the claws black.

This bird, though small, is not inferior in courage to any of the falcon tribe. It was used for taking larks, partridges, and quails, which it will frequently kill by one blow, striking them on the breast, head, or neck. This bird differs from the falcons, and all the rapacious kind, in the male and female being of the same size.

The merlin does not breed here, but visits us in October: it flies low, and with great celerity and ease. It preys on small birds, and breeds in woods, laying five or six eggs.

THE OWL.

ALL birds of the owl kind may be considered as nocturnal robbers, who, unfitted for taking their prey while it is light, surprise it at those hours of rest when the tribes of Nature are least in expectation of an enemy: it is not however, as some have imagined, in the darkest nights, but in the dusk of evening, or the dawn of morning, that they are best fitted for seeing; it is then they come abroad in quest of plunder; and they carefully return to their retreats before the broad day-light begins to dazzle them with its splendour.

The larger animals of this tribe are called horned owls, from the circumstance of two or three feathers standing up on each side of the head over the ear, resembling horns. One variety of these appears, at first sight, as large as an eagle, but, on a closer inspection, it will be found considerably less. Its plumage is of a redish brown, diversified with black and yellow spots. The other varieties differ principally in their size.

The largest of these birds without horns, is the owl, with dusky plumes and black eyes: to which may be added, the screech owl, with blue eyes, and plumage of an iron grey; the white owl, with yellow eyes, and about as large as the former; the brown owl, so called from the colour of its beak and plumage; and the little brown owl, with yellowish eyes, and an orange-coloured bill.—All

these varieties, however they may differ in their size and plumage, agree in their general characteristics of preying by night, and having their eyes formed for nocturnal vision. They have all, likewise, a hideous note, which is often heard in the silence of midnight, and breaks the general pause with a horrid variation.

These birds are often seen in the northern parts of England; and at times near the vicinity of London.

THE COCK.



ALL birds of this species being of the poultry kind, have white flesh and bulky bodies. They are furnished with short strong bills, for picking up grain, which constitutes their principal sustenance; their wings are short and concave, for which reason they are not able to fly far; and their toes are united by a membrane as far as the first articulation, being afterwards divided, as in those of the former class. The females generally make their nest on the ground, and lay a great number of eggs.

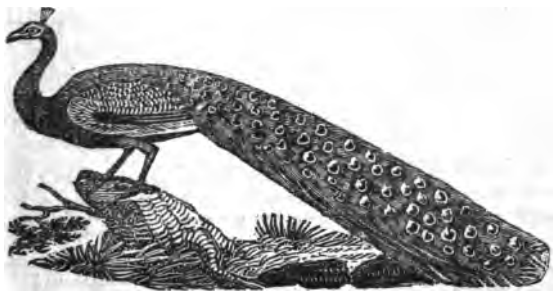
Of all other birds, the cock seems to have been first reclaimed from the forest, and taken to supply the accidental failure of the luxuries or necessities of life. As he has thus been longest under the care and protection of man, so of all others he seems to exhibit the greatest number of varieties; there being scarcely two birds of this species that exactly resemble each other in form and plumage. The tail, which makes such a beautiful figure in the generality of these animals, is entirely wanting in some; and the feathers, which lie so sleek and regular in most of those we are acquainted with, are, in a peculiar breed, all inverted, and stand the wrong way.

In his native state of independence, as seen in the woods on the coast of Malabar, and in many islands of the Indian ocean, the plumage of this bird is black and yellow, and his comb and wattles are yellow and purple; and it is peculiarly worthy of observation, that the bones of this species, when boiled, are as black as ebony.—The varieties noticed above, with many others too tedious for enumeration, may be considered as indubitable marks of long captivity.

No animal has greater courage than the cock, when opposed to one of his own species, and in every part of the world, where refinement and polished manners have not taken place, cock-fighting is a principal diversion.—In China, India, and the Philippine Islands, and all over the East, it is a favourite sport even with kings and princes.—This bird is very attentive to his females, and sometimes perfectly infuriate in defence of his young.

The hen seldom clutches a brood of chickens above once a season, though instances have been known to the contrary. Provided, however, she be well fed and supplied with water, she will lay upwards of two hundred eggs in the course of a year. During the period of incubation, nothing can exceed her patience and perseverance; and when her little offspring are produced, her pride and her affection seem to alter her very nature, and render her equally bold and abstemious on their account, though naturally timid and voracious.

THE PEACOCK.



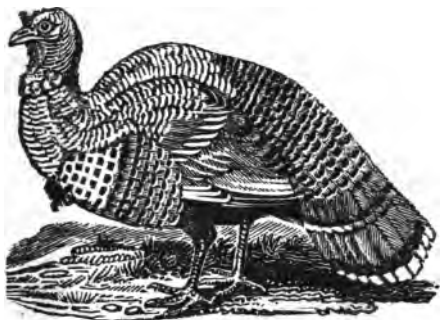
To describe the inimitable beauties of this elegant bird, in adequate terms, would be a task of no small difficulty. Its head is adorned with a tuft consisting of twenty-four

feathers, whose slender shafts are furnished with webs only at the ends, painted with the most exquisite green, mixed with gold; the head, throat, neck, and breast, are of a deep blue, glossed with green and gold; the greater coverts and bastard wings are of a redish brown, as are also the quills, some of which are variegated with black and green; the belly and vent are black, with a greenish hue: but the distinguishing character of this singular bird, is its train, which rises just above the tail, and, when erected, forms a fan of the most resplendent hues; the two middle feathers are sometimes four feet and a half long, the others gradually diminishing on each side; the shafts white, and furnished from their origin nearly to the end with parted filaments of varying colours, ending in a flat vane, which is decorated with what is called the eye. When pleased and delighted, and in sight of his female, the peacock erects his tail, and displays all the majesty of his beauty; all his movements are full of dignity; his head and neck bend nobly back; his pace is slow and solemn, and he frequently turns slowly and gracefully round, as if to catch the sun-beams in every direction, and produce new colours of inconceivable richness and beauty, accompanied at the same time with a hollow murmuring voice, expressive of desire. The cry of the peacock, at other times, is often repeated and very disagreeable.

The peahen is somewhat less than the cock, and though furnished with both a train and crest, is destitute of those dazzling beauties which distinguish the male. She lays five or six eggs, of a whitish colour: for this purpose she chuses some secret spot, where she can conceal them from the male, who is apt to break them: she sits from twenty-five to thirty days, according to the temperature of the climate, and the warmth of the season. These birds were originally brought from the distant provinces of India, and thence have been diffused over every part of the world.

The female of this species, like the pheasant, have been known to assume the appearance of the male, by a total change of colour: this is said to take place after they have done laying.

White peacocks are not uncommon in England; the eyes of the train are barely visible, and may be traced by a different undulation of shade upon the pure white of the tail.

THE TURKEY.

THE turkey, when young, is generally considered as one of the tenderest of birds; yet in its wild state it is found in great plenty in the forests of Canada, which are covered with snow above three parts of the year. It is there also much larger than in a state of captivity, and its feathers are much more beautiful, being of a dark grey, bordered at the edges with a bright gold colour.

The hunting of these animals forms one of the principal diversions of the native Indian, as their flesh contributes to the support of his family. Having discovered their retreat, he sends his dog into the midst of the flock; and though the turkeys soon outstrip their pursuer by running, he continues to follow, till he at last forces them to take shelter in a tree, whence they are knocked down by a long pole, and easily taken.

Though extremely prone to quarrel among themselves, they are in general, weak and cowardly against other animals, and are seen to fly from almost every creature that will venture boldly to oppose them. On the contrary, they pursue every thing that appears to dread them, particularly lap-dogs and children; and after having made these objects of their aversion scamper, they evince their pride and satisfaction, by displaying their plumage, strutting among their female train, and uttering their peculiar note of self-approbation. Some instances, however, have occurred, in which the turkey-cock has exhibited a considerable share of courage and prowess.

The female seems of a milder disposition than her consort. Rather querulous than bold, she hunts about in

quest of grain and insects, and is particularly fond of the eggs of ants and caterpillars. She lays about eighteen or twenty eggs, and when her young begin to follow her in search of food, she rather warns them of danger, than prepares to defend them.

THE PHEASANT.



NOTHING indeed can charm the eye with a greater richness and variety of ornament than this beautiful bird. The iris of the eye is yellow, and the eyes themselves are surrounded by a scarlet colour, sprinkled with small specks of black. The top of the head and upper part of the neck are tinged with a darkish green, which shines like silk, and sometimes appears to change to blue, as it is differently presented to the eye of the spectator. The plumage on the breast, the shoulders, the middle of the back, and the sides under the wings, have a blackish ground, with edges tinged of an exquisite purple, and under this is a transverse streak of gold colour. The length of the tail, from the middle feathers to the root is about eighteen inches. The plumage of the female, however, is inferior to that of the male.

The pheasant is said to have been first brought into Europe from the banks of Phasis, in Asia Minor, and to have been at first artificially propagated in this country. However, notwithstanding the coldness of our climate, and the tenderness of its constitution, it has multiplied in a wild state; and, as if despising the protection of man, has left him, to take shelter in the thickest woods and the remotest forests. In fact, this spirit of independence

seems to attend the pheasant even in captivity. In the woods, the female lays from eighteen to twenty eggs in a season; but in a domestic state she seldom produces above ten. In the same manner, when wild, she hatches and brings up her brood with patience, vigilance, and attention; but when kept tame, she sits so ill, that a hen is generally her substitute upon such occasions. On all accounts, therefore, this bird seems better adapted to range at large in the woods than to be brought up in a state of captivity. Its fecundity, when wild, is sufficient to stock the forest; its beautiful plumage adorns it; and its flesh acquires a higher and more delicious flavour from its unlimited freedom.

Of this, as of all other domestic fowl, there are several varieties; such as white, crested, and spotted pheasants; but, of all others, the golden pheasant of China, is the most beautiful.

THE PINTADA, OR GUINEA-HEN.



THIS singular bird is about the size of a common hen, but, being supported on longer legs, it looks much larger. The head is covered with a kind of helmet; the back is round: and the tail turned downward, like that of a partridge. The whole plumage is black, or dark grey, diversified with white spots; and the wattles, proceeding from the upper chap, give it a very peculiar aspect.

In many parts of Africa, these birds are seen in numerous flocks, feeding their young, or leading them in quest of food. All their habits resemble those of the poultry kind, and they agree in every other respect, except that the male and female can only be distinguished by the colour of their wattles; those of the cock being of a bluish

cast, while in the hen they are more inclining to red. In our climate, the females lay but five or six eggs in a season; but in their native regions they are far more prolific.

THE BUSTARD.



THIS bird is considerably larger than the turkey, the male generally weighing from twenty-five to twenty-seven pounds. The neck is a foot long, and the legs eighteen inches. The wings, however, are not proportionable to the rest of the body, being but four feet from the tip of one to that of the other; for which reason the animal flies with great difficulty. The head and neck of the male are ash-coloured; the back is barred transversely with rust-colour and black; the belly is white, and the tail is marked with broad black bars.

Bustards are frequently seen in large flocks on Salisbury Plain, the heaths of Sussex and Cambridgeshire, the Dorsetshire uplands, and as far as East Lothian in Scotland. Their food consists of the berries that grow among the heath, and the large earth-worms that appear on the downs before sun-rising in summer; and as their native plains afford no woods to screen the sportsman, nor hedges

to creep along, as may be said to enjoy an indolent security. As it often happens, however, that they feed themselves so fat as to be incapable of flying swiftly, they are sometimes run down by greyhounds.

The female makes her nest upon the ground, by merely scraping a hole, and lining it with a little straw, or long grass. She lays two eggs, of a pale olive brown, diversified with dark spots; and the young ones run about as soon as they are hatched.

THE WOOD-GROUS, OR COCK OF THE WOOD.



THIS bird is nearly the size of a turkey, and often weighs twelve or fourteen pounds; but the female is considerably smaller. The head and neck are ash-coloured, and crossed with black lines; the body and wings of a chestnut brown; and the breast of a blackish glossy green. The plumage of the female is very different.

This bird is chiefly found in mountainous and wooded situations; though in summer he occasionally ventures from his retreats, to make short depredations on the farmer's corn. When in the recesses of the forest, he attaches himself principally to the oak and the pine-tree; the cones of the latter serving him for food, and the branches affording him a habitation. He also feeds upon cranberries, ants' eggs, and insects; and his gizzard, like that of domestic fowls, contains a quantity of gravel, which is supposed to assist his powers of digestion.

The wood-grouse begins to feel the genial influence of spring at its earliest approach; and its courtship may be said to continue till the trees are entirely clothed with

foliage and the forest is in full bloom: during this season, he may be seen, at sunrise and setting, extremely active upon one of the largest branches of a pine-tree; his tail raised and expanded like a fan, his wings drooping, his neck stretched out, and his head swoln and red: his cry upon this occasion is a kind of loud explosion, followed by a noise like the whetting of a scythe; and as he now seems entirely deaf and insensible of danger, this is the time that sportsmen generally take to shoot him. Upon all other occasions he is the most timid and vigilant bird in nature.

The female generally chooses a dry place and a mossy ground for the purpose of incubation. She lays six or seven eggs, which are white and marked with yellow; and while sitting, she is so remarkably tame and tranquil, that it is not easy to force her from her nest. When obliged to quit her eggs in quest of food, she covers them up so artfully with moss and dry leaves, that it is extremely difficult to discover them.

The black cock, the grouse commonly so called, and the ptarmigan, are all birds of a similar nature with the preceding, and usually found in heathy mountains, or piny forests, at a distance from mankind. The black cock, (which derives its name from the colour of its plumage, though that of the female resembles a partridge), is about the size of a common hen, and is only found in the islands of Scotland. The grouse is about half as large again as the partridge, and its colour like that of a woodcock, but redder. The ptarmigan is still somewhat less, and its plumage of a pale brown, or ash-colour. These are all distinguishable from other birds of the poultry kind, by a naked skin, of a scarlet colour, above the eyes, in the place, and of the figure, of eye-brows.

In most of the northern parts of Europe, even as far as Greenland, a bird of this species is met with, called the white grouse; at times it visits the highest hills in Scotland, in the Hebrides and Orkneys; and sometimes, but rarely, on the lofty hills of Cumberland and Wales. The female lays eight or ten eggs, which are white, spotted with brown: she makes no nest, but deposits them on the ground. In winter they fly in flocks, and are so little accustomed to the sight of man, that they are easily shot or taken in a snare. They feed on the wild productions of the hills, which sometimes gives their flesh a bitter taste.

THE PARTRIDGE.

THE length of this bird is about thirteen inches. The bill is light brown; eyes hazel; the general colour of its plumage is brown and ash, elegantly mixed with black; each feather is streaked down the middle with buff colour; the sides of the head are tawny; under each eye there is a small saffron-coloured spot, which has a granulated appearance; and between the eye and the ear, a naked skin of bright scarlet, which is not very conspicuous but in old birds; on the breast there is a crescent of deep chestnut colour: the tail is short; the legs are of a greenish white, and are furnished with a small knob behind. The female has no crescent on the breast, and her colours in general are not so distinct and bright as those of the male.

Partridges are found chiefly in temperate climates; the extremes of heat and cold are equally unfavourable to them; they are no where in greater plenty than in this island, where, in their season, they contribute to our most elegant entertainments.

These birds pair early in the spring; the female lays from fourteen to eighteen or twenty eggs, making her nest of dry leaves and grass upon the ground. The young birds learn to run as soon as hatched, frequently encumbered with part of the shell sticking to them. It is no uncommon thing to introduce partridge's eggs under the common hen, who hatches and rears them as her own; in this case the young birds require to be fed with ants' eggs, which are their favourite food, and without which it is almost impossible to bring them up: they likewise eat insects, and when full grown, feed on all kinds of grain and young plants. The affection of the female for

her young, is peculiarly strong and lively; she is greatly assisted in the care of rearing them by her mate; they lead them out in common, call them together, point out to them their proper food, and assist them in finding it by scratching the ground with their feet; they frequently sit close by each other, covering their young with their wings, like the hen. In this situation they are not easily flushed; the sportman, who is attentive to the preservation of his game, will carefully avoid giving any disturbance to a scene so truly interesting.

THE QUAIL.



THIS bird is much smaller than any of the former, being not above half the size of the partridge. The feathers on the head are black, edged with rusty brown; the breast is of a yellowish red, spotted with black; and the plumage on the back is marked with lines of pale yellow. Its form is exactly that of the partridge; and it resembles the generality of the poultry kind in its nature and habits.

Quails are almost universally diffused throughout Europe, Asia, and Africa; they are birds of passage, and are seen in immense flocks traversing the Mediterranean sea, from Europe to the shores of Africa, in the autumn, and returning again in the spring, frequently alighting in their passage on many of the islands of the Archipelago, which they almost cover with their numbers. On the western coasts of the kingdom of Naples, such prodigious numbers have appeared, that a hundred thousand have been taken in a day within the space of four or five miles. The female makes her nest like the partridge, and lays to the number of six or seven eggs, of a greyish colour, speckled with brown. The young birds follow the mother

as soon as hatched, but do not continue long together; they are scarcely grown up before they separate; or if kept together, they fight obstinately with each other, their quarrels frequently terminating in each other's destruction.

THE TRUMPETER.



THE trumpeter, so called from the singular noise it makes, is a native of the dry and mountainous forests of South America. It is about the size of a large fowl; the general plumage of the body black, with the fore part of the neck, and upper part of the breast, of a fine changeable green. The legs are naked and scaly a little above the knees, with three toes placed before and one behind.

This bird is easily tamed, and discovers a considerable degree of attachment to those who notice and feed it: when bred in the house, it loads its master with caresses, and even follows him through the streets like a dog. In a state of nature, these animals associate in numerous flocks, feed on wild fruits, and walk and run with great celerity.

The most remarkable characteristic of these birds consists in the wonderful noise which they often make, either of their own accord, or when urged by their keepers. To induce them to this, it is sometimes necessary to entice the bird with a bit of bread to come near; and then making the same kind of sound, which the keepers make, the bird will imitate it. This noise resembles that of a trumpet, gradually lowering to the moaning of a pigeon.

THE RAVEN.

THE raven is so generally known, that a long description would rather tend to obscure the reader's ideas than to gratify his curiosity. It is the largest of the pie kind; under which class of birds may be arranged all the noisy, restless, chattering tribe, that lies between the hen and the thrush; that, from the size of the raven, down to that of the woodpecker, flutter round our habitations, and make free with the fruits of human industry: they are, however, the most industrious, the most faithful, and the most connubial of volatiles; every species being true to its kind, and transmitting an unpolluted race to posterity. Their manners, as may naturally be supposed in so numerous a class, are very various; but they all agree in a few general characters, namely, in having hoarse voices, slight active bodies, and a facility of flight that baffles even the boldest of the rapacious kinds in the pursuit.

The raven is about two feet in length, and four in breadth. Its bill is strong, and very thick at the base; it measures somewhat more than two inches and a half in length, and is covered with strong hairs, or bristles, which extend above half its length, covering the nostrils: the general colour of the upper parts is a fine glossy black, reflecting a blue tint on particular lights; the under parts are duller, and of a dusky hue.

This bird is found in every region of the globe, and is apparently uninfluenced by the changes of the weather; for when other birds are benumbed with cold, or pining with famine, it is busily employed in seeking for prey, or sporting in the coldest atmosphere. Sometimes, in-

deed, this bird is seen perfectly white, which may probably be the effect of the rigorous climate of the north; but in all situations it appears active and healthy.

In its wild state, the raven is an active and greedy plunderer: nothing comes amiss to it; for whether its prey be living, or completely putrescent, it falls too with a voracious appetite; and after satiating itself, flies off to acquaint its fellows, that they may participate in the spoil. Its scent is so exquisite, that it can discover carrion at an immense distance; but if in its flight it perceives no signs of such a banquet, it contents itself with more unsavoury food, as fruits, insects, &c.

The female usually builds her nest in high trees, and lays five or six eggs, of a pale green colour, marked with small brownish spots: she sits about twenty days, and her perseverance in the task of incubation is sometimes peculiarly worthy of observation.—When taken under human protection, the raven may be trained up for almost any purpose to which a bird can be converted; it may be taught to fetch and carry like a dog, to speak like a parrot, or even to sing like a man.

THE CARRION-CROW.



THIS bird is less than the raven, but similar to it in its habits, colour, and external appearance. It is about eighteen inches in length; its breadth above two feet. Birds of this kind are more numerous than the raven, and as widely spread; they live mostly in woods, and build their nests on trees: the female lays five or six eggs, much like those of a raven. They feed on putrid flesh

of all sorts; likewise on eggs, worms, insects, and various sorts of grain. They live together in pairs, and remain in England during the whole year.

THE ROOK.



THE rook is about the size of the carrion-crow, and, excepting its more glossy plumage, very much resembles it. The base of the bill and nostrils, as far as the eyes, is covered with a rugged skin, in which it differs from all the rest, occasioned, it is said, by thrusting its bill into the earth in search of worms; but as the same appearance has been observed in such as have been brought up tame and unaccustomed to that mode of subsistence, we are inclined to consider it an original peculiarity. We have already had occasion to observe that they are useful in preventing a too great increase of that destructive insect, the chafer, or dor-beetle, and thereby make large recompense for the depredations they may occasionally commit on the corn-fields. Rooks are gregarious, and fly in immense flocks at morning and evening to and from their roosting places in quest of food. During the breeding time, they live together in large societies, and build their nests on trees close to each other, frequently in the midst of large and populous towns. These rookeries, however, are often the scenes of bitter contentions: the new-comers are frequently driven away by the old inhabitants, their half-built nests are torn in pieces, and the unfortunate couple forced to begin their work anew in some more undisturbed situation.

THE JACK-DAW.

THIS bird is considerably less than the rook, being only thirteen inches in length. Its bill is black; eyes white; and the hinder part of the head and neck are of hoary grey colour; the rest of the plumage is of a fine glossy black above; beneath, it has a dusky hue: the legs are black.

The daw is very common in England, and remains with us the whole year: in other countries, as in France and various parts of Germany, it is migratory. They frequent churches, old towers, and ruins, in great flocks, where they build their nests: the females lay five or six eggs, paler than those of the crow, and smaller; they rarely build in trees: in Hampshire, they sometimes breed in the rabbit burrows. They are easily tamed, and may be taught to pronounce several words: they will conceal part of their food, and with it small pieces of money, or toys. They feed on insects, grain, fruit, and small pieces of flesh, and are said to be fond of partridges' eggs.

There is a variety of the daw found in Switzerland, having a white collar round its neck. In Norway and other cold countries, they have been seen perfectly white.

THE RED-LEGGED CROW.

THIS bird is about the size of the former: its bill is long, much curved, sharp at the tip, and of a bright red colour; the plumage is altogether of purplish violet black: the legs are red as the bill; the claws are large, much hooked, and black.

It builds on high cliffs by the sea-side, and chiefly frequents the coasts of Devonshire and Cornwall, and likewise many parts of Wales: a few are found on the Dover cliffs, and some in Scotland. The female lays four or five white eggs, spotted with yellow. It is a voracious, bold, and greedy bird, and feeds on insects and berries: it is said to be particularly fond of the juniper-berry. It is attracted by glittering objects, and has been known to pull from the fire lighted pieces of wood, to the no small danger of the house.

THE MAGPIE.



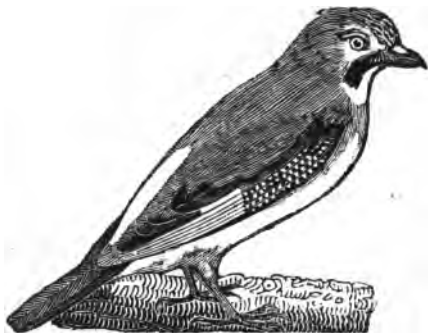
Its length is about eighteen inches; the bill is strong and black; eyes hazel; the head, neck, and breast, are of a deep black, which is finely contrasted with the snowy whiteness of the under parts: the neck feathers are very long, extending down the back, leaving only a small space, of a greyish ash-colour, between them and the tail coverts, which are black; the plumage, in general, is glossed with green, purple, and blue, which catch the eye in different lights; the tail is very long, and wedge-shaped; the under tail-coverts, thighs, and legs, are black; on the throat and part of the neck, there is a kind of feathers, mixed with the others, resembling strong whitish hairs.

This beautiful bird is every where very common in England; it is likewise found in various part of the continent, but not so far north as Lapland, nor farther south than Italy: it is met with in America, but not commonly, and is migratory there. It feeds, like the crow, on almost every thing, animal as well as vegetable. The female builds her nest with great art, leaving a hole in the side

for her admittance, and covering the whole upper part with a texture of thorny branches, closely entangled, thereby securing her retreat from the rude attacks of other birds; but it is not safety alone she consults; the inside is furnished with a sort of mattress, composed of wool and other soft materials, on which her young repose: she lays seven or eight eggs, of a pale green colour, spotted with black.

The magpie is crafty and familiar, and may be taught to pronounce words, and even short sentences, and will imitate any particular noise which it hears. It is addicted, like other birds of its kind, to stealing, and will hoard up its provisions. It is smaller than the jackdaw, and its wings are shorter in proportion; accordingly its flight is not so lofty, nor so well supported: it never undertakes long journeys, but flies only from tree to tree, at moderate distances.

THE JAY.



THE jay is one of the most elegant birds produced in the British Islands. The head is covered with very long feathers, capable of being erected into a crest at pleasure. The forehead is white, streaked with black; the neck black and white; and the tail is entirely black.

This bird is remarkable for its harsh grating voice, and restless disposition. Upon seeing the sportsman, it gives, by its cries, the alarm of danger, and thereby defeats his aim, and disappoints him. The jay builds in woods,

and makes an artless nest composed of sticks, fibres, and tender twigs; the female lays five or six eggs, of a greyish ash colour, mixed with green, and faintly spotted with brown.

THE ROLLER.



THIS rare bird is distinguished by a plumage of most exquisite beauty; it vies with the parrot in an assemblage of the finest shades of blue and green, mixed with white, and heightened by the contrast of graver colours, from which, perhaps, it has been called the German parrot, although in every other respect it differs from that bird, and seems rather to claim affinity with the crow kind, to which we have made it an appendage. In size it resembles the jay, being somewhat more than twelve inches in length. Its bill is black, beset with short bristles at the base: the eyes are surrounded with a ring of naked skin, of a yellow colour, and behind them there is a kind of wart: the head, neck, breast, and belly, are of a light pea-green; the points of the wings and upper coverts are of a rich deep blue; the greater coverts pale green; the quills are of dusky hue, inclining to black, and mixed with deep blue; the rump is blue; the tail is somewhat forked; the lower part of the feathers are of a dusky green, middle parts pale blue, tips black: the legs are short, and of a dull yellow.

This is the only species of the kind found in Europe: it is very common in some parts of Germany; but is so rare in this country, as hardly to deserve the name of a British bird.

THE STARLING.



THE length of this bird is somewhat less than nine inches. The bill is straight, sharp-pointed, and of a yellowish brown; in old birds deep yellow; the nostrils are surrounded by a prominent rim: the eyes are brown; the whole plumage is dark, glossed with green, blue, purple, and copper, but each feather is marked at the end with a pale yellow spot; the wing coverts are edged with yellowish brown; the quill and tail feathers, dusky, with light edges: the legs are of a redish brown.

From the striking similarity, both in form and manners, observable in this bird and those more immediately preceding, we have no scruple in removing it from its usual place, as it evidently forms a connecting link between them, and in a variety of points seems equally allied to both. Few birds are more generally known than this, it being an inhabitant of almost every climate; and as it is a familiar bird, and easily trained in a state of captivity, its habits have been more frequently observed than those of most other birds. The female makes an artless nest in the hollows of trees, rocks, or old walls, and sometimes in cliffs overhanging the sea: she lays four or five eggs, of a pale greenish ash colour: the young birds are of a dusky brown colour till the first moult. In the winter season these birds fly in vast flocks, and may be known at a great distance by their whirling mode of flight.

So attached are starlings to society, that they not only join those of their own species, but also birds of a different kind, and are frequently seen in company with redwings, fieldfares, and even with crows, jackdaws, and pigeons. Their principal food consists of worms, snails, and caterpillars: they likewise eat various kinds of grain, seeds, and berries, and are said to be particularly fond of cherries. In a confined state, they eat small pieces of raw flesh, bread soaked in water, &c. are very docile, and may easily be taught to repeat short sentences, or whistle tunes, with great exactness; and in this state, acquire a warbling superior to their native song.

THE RING-OUZEL.



THIS bird's general colour is of a dull black, or dusky hue; each feather is margined with a greyish ash colour: the bill is dusky; the corners and inside of the mouth, yellow; eyes hazel; its breast is distinguished by a crescent of pure white, which almost surrounds the neck, and from which it derives its name: its legs are of a dusky brown. The female differs in having the crescent on the breast much less conspicuous, and, in some birds, wholly wanting, which has occasioned some authors to consider it as a different species, under the name of the rock-ouzel.

These birds are found in various parts of this kingdom, chiefly in the wilder and more mountainous districts of the country: their habits are similar to those of the blackbird; the female builds her nest in the same manner, and in similar situations, and lays four or five eggs of the same colour: they feed on insects and berries of various kinds, and are very fond of grapes.

THE THRUSH.

THE length of this bird is about eleven inches. The tail is dusky; the base of the lower bill yellow; the eyes hazel; the head, back, and lesser coverts of the wings, are of a deep olive brown, the latter tipped with white; the lower part of the back and rump tinged with yellow; the cheeks are of a yellowish white, spotted with brown, as are also the breast and belly, which are marked with larger spots of a dark brown colour; the quills are brown, with pale edges; tail feathers the same, the three outermost tipped with white; the legs are yellow; claws black. The female builds her nest in bushes or low trees, and lays four or five eggs, of a dirty flesh colour, marked with blood-red spots. Its nest is made of moss, leaves, &c. lined with dry grass, strengthened on the outside with small twigs. It begins to sing very early, often on the turn of the year in blowing showery weather, whence, in some places, it is called the storm-cock. Its note of anger is very loud and harsh, between a chatter and a shriek, which accounts for some of its names. It feeds on various kinds of berries, particularly those of the misletoe, of which bird-lime is made; it likewise feeds on caterpillars and various kinds of insects, with which it also feeds its young.

This bird is found in various parts of Europe, and is said to be migratory in some places, but continues in England the whole year, and frequently has two broods.

The song-thrush, or thrustle, is distinguished among the singing birds, by the clearness and fulness of its note; its song is sweet and various; it begins early in spring, and continues best part of the summer.

THE FIELDFARE.

THIS bird is somewhat less than the thrush. The bill is yellow; each corner of the mouth is furnished with a few black bristly hairs; the eye is light brown; the top of the head and back part of the neck are of a light ash colour, the former spotted with black: the back and coverts of the wings are of a deep hoary brown; the throat and breast are yellow, regularly spotted with black; the belly and legs, of a yellowish white; the tail brown, inclining to black; legs of a dusky yellowish brown; in young birds, yellow.

The fieldfare is only a visitant in England, making its appearance about the beginning of October, in order to avoid the rigorous winters of the north, whence it sometimes comes in great flocks, according to the severity of the season, and leaves us about the latter end of February, or the beginning of March, and retires to Russia, Sweden, Norway, and as far as Siberia and Kamtschatka. During the winter they feed on haws and other berries; they likewise eat worms, snails, and slugs.

There is a variety of this bird, of which the head and neck are of a yellowish white; the rest of the body nearly of the same colour, mixed with a few brown feathers; the spots on the breast faint and indistinct: the quill feathers perfectly white, except one or two on each side, which are brown; the tail is marked in a similar manner.

Fieldfares are sometimes seen singly, but in general form very numerous flocks, and fly in a body: and though they often spread themselves through the fields in search

of food, they seldom lose sight of each other, but, when alarmed, fly off, and collect together upon the same tree.

THE CUCKOO.



THIS singular bird is nearly the size of a pigeon, shaped somewhat like a magpie, and distinguished from all other birds by its round prominent nostrils. The head, neck, back, and wing coverts, are of a dove colour; the breast and belly are white, crossed with wavy lines of black; the tail consists of ten feathers; the two middle ones black, with white tips; the others dusky, and marked with alternate spots of white on each side of the shaft. The legs are of a yellow colour, and the claws white. Its principal food consists of flesh and insects.

The female cuckoo, soon after her arrival in England, prepares to forward the grand design of Nature in the propagation of her kind: unlike all other birds, however, she neither provides a nest, nor betrays the least solicitude for the production of her young; but deposits her solitary egg in the nest of some other bird, and most generally in that of the hedge-sparrow; this intrusion often occasions some disorder, for the edge-sparrow, at intervals, while she is sitting, not only throws out some of her own eggs, but sometimes injures them in such a manner that they become addled; so that it frequently happens that not more than two or three of the parent bird's eggs are hatched; but it has never been observed that the egg of the cuckoo has either been thrown out or injured. When the hedge-sparrow has sit her usual time, and disengaged the young cuckoo and some of her

own offspring from the shell, her own young ones, and those of her eggs that remain unhatched, are generally turned out of the nest by the intruder.

The young bird generally continues three weeks in the nest before it flies; and the foster parents feed it more than five weeks after this period. Hence it appears, that if a cuckoo were ready with an egg much sooner than the time pointed out, not a single nestling, even of the earliest, would be fit to provide for itself, before its parent would be instinctively directed to seek a new residence, and be thus compelled to abandon its offspring; for the cuckoos take their leave of this country the first week in July.

THE REDWING.



THIS bird is not more than eight inches in length. The bill is of a dark brown colour; eyes deep hazel; the plumage in general is similar to that of the thrush, but a white streak over the eye distinguishes it from that bird; the belly is not quite so much spotted, and the sides of the body, and the feathers under the wings, are tinged with red, which are its peculiar characteristics; whence also it derives its name.

These birds make their appearance a few days before the fieldfare, and are generally seen with them after their arrival; they frequent the same places, eat the same food, and are very similar to them in manners. Like the fieldfare, they leave us in the spring. The female builds her nest in low bushes and hedges, and lays six eggs, of a greenish colour, spotted with black.

All their season of music and pleasure, however, is employed in the more northern climates, where they sing most delightfully, among the forests of maples with which those countries abound.

THE WOODPECKER.



Of this bird there are many kinds, and several varieties of each kind, but instead of descending into a minute discrimination of every species, we shall take one for a pattern, to which all the others bear the strongest affinity. Words can but feebly describe the plumage of a bird; but it is the province of history to mark every animal's pursuits and occupations.

The green woodpecker is about the size of a jay: the throat, breast, and belly, are of a pale greenish colour; and the back, neck, and covert feathers of the wings, are green. But the tongue is its most distinguished characteristic, as it serves both for its support and defence: this is round, ending in a sharp boney tip, dentated on both sides, like the beard of an arrow, and capable of being thrust out three or four inches from the bill, and drawn in again at pleasure.

Such is the instrument with which this bird is provided, and it is used in the following manner:—When a woodpecker, by its natural sagacity, finds a hollow or decayed tree, where there are worms, ants' eggs, or insects, it immediately prepares for its operations. Resting by its strong claws, and leaning on the thick feathers of its tail, it begins to bore with its sharp, strong beak, until it discloses the whole internal habitation. It then sends forth a loud cry, upon which the whole insect tribe are thrown into confusion, and run hither and thither seeking for

for safety; while the invader luxuriously feasts upon them at leisure, darting in its long tongue, and devouring the whole brood. Sometimes, also, this bird alights upon the ground to try its fortune at an ant-hill, and seldom fails of procuring a rich repast.

The woodpecker generally chooses for its habitation trees that are decayed, or soft wood, as the elm and poplar. In these, with very little trouble, it makes holes, as exactly round as a mathematician could with compasses; and here the female deposits her eggs, without any thing to keep them warm, except the heat of her own body. When the young are excluded from the shell, and before they leave the nest, they are adorned with a scarlet plumage under the throat, which adds considerably to their beauty.

THE WOOD-PIGEON.



ALL the numerous and beautiful varieties of this tribe derive their origin from the stock-dove, or wood-pigeon; which is of a deep bluish ash colour; the breast dashed with a fine changeable green and purple; the wings marked with two black bars; the back white; and the tail barred near the end with black. Such are the colours of the pigeon in its natural state; and from these simple tints the effects of domestication have produced a variety that words cannot describe, nor even fancy suggest.

The ring-dove is considerably larger than the former, and derives its appellation from a beautiful white circle round the neck. This bird builds its nest with a few dry sticks, in the boughs of trees; and is so strongly attached

to its native freedom, that all attempts to domesticate it have hitherto proved ineffectual.

The carrier pigeon is distinguished from all others by a broad circle of naked white skin which surrounds the eyes; and by the colour of the plumage, which is of a dark blue, inclining to black. From their attachment to their native place, these birds are employed in several countries, as the most expeditious carriers of letters; and formerly they were commonly used in carrying letters from place to place in time of war, and in case of sieges, when all other means of communication were intercepted, or cut off by the enemy.—These birds have been known to fly at the rate of seventy-two miles in the space of two hours and a half.

THE TURTLE-DOVE.



THE turtle-dove is a smaller bird than either of the preceding, and is easily distinguished by the yellow iris of the eye, and by a beautiful crimson circle that encompasses the eye-lids.

The note of this bird is singularly tender and plaintive; in addressing his mate, the male makes use of a variety of winning attitudes, cooing at the same time in the most gentle and soothing accents; on which account the turtle-dove has been represented, in all ages, as the most perfect emblem of connubial attachment and constancy. It arrives late in the spring, and departs about the latter end of August: it frequents the thickest and most sheltered parts of the woods, where it builds its nest on the highest trees; the female lays two eggs, and has only one brood in this country, but in warmer climates it is sup-

posed to breed several times in the year. These birds are so common in Kent, that they are sometimes seen in flock of twenty, or more, frequenting the pea-fields, and are said to do much damage. Their stay with us seldom exceeds more than four or five months, during which time they pair, build their nests, breed, and rear their young; which are strong enough to join them in their retreat.

The fidelity of these birds has furnished poets and sentimental writers with the most beautiful allusions; and it is generally asserted, that if a pair be put into a cage, and one happens to die, the other will not survive it.

THE BLACKBIRD.



THIS bird is of the sparrow kind; which class chiefly reside in the neighbourhood of man, and are his peculiar favourites. The falcon may be more esteemed, and the turkey more useful, as animals reclaimed to supply some of the conveniences of life; but these little painted songsters conciliate our affections both by their beauty and their melody: they fill our groves with harmony, and elevate our hearts to sympathise with their raptures.

The above beautiful and well-known bird is one of the first that proclaims the genial spring, and its note, when heard at a distance, is the most pleasing of all the grove; though it is rather unpleasant in a cage, being loud and deafening. It is a solitary animal, generally found in sequestered woods, or other retired situations. It feeds on worms, snails, insects, &c. but when domesticated, it will eat any sort of flesh meat, either raw or dressed, provided it be not salt.—The female builds an artificial nest, well plastered on the inside with clay, straw, and hair, and usually lays four or five blueish eggs.

THE GOLDFINCH.

THIS bird is universally esteemed, both for the melody of its note, and the beauty of its colours; and is too well known to require a description. It is of a mild and gentle nature, soon becomes reconciled to captivity, and may be easily taught a variety of entertaining tricks. The female generally builds in fruit-trees, and lays five or six eggs, of a white colour, speckled, and marked with a redish brown.

THE WREN.

THIS bird, which weighs only three drachms, and is but four inches in length, from the point of the bill to the end of the tail, is admired for the loudness of its note, compared with the little body whence it issues; and even when confined in a cage, it has sometimes been known to sing as strong as in its native fields, and with equal freedom and mellowness of song. It commonly creeps about hedges or trees, in the vicinity of farm-yards, and sings very late in the evening, though not, like the nightingale, after the landscape is enveloped in darkness.—The fe-

male constructs a very curious nest, and lays from ten to fifteen eggs, which are very small, white, and sprinkled with red spots.

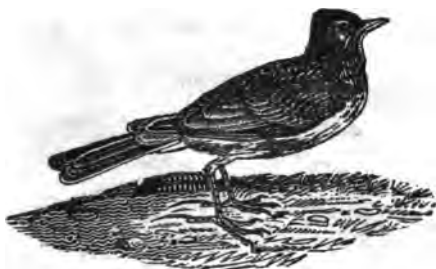
THE REDBREAST.



THE redbreast is less celebrated for its music than its attachment to mankind; its bill is slender and delicate; its eyes are dark, large, and expressive, and its aspect mild; its head and all the upper parts of its body are brown, tinged with a greenish olive; the neck and breast are of a fine deep redish orange; a spot of the same colour marks its forehead: its belly is whitish, and the legs and feet of a dusky black. It is near six inches in length, from the tip of the bill to the end of the tail; the former being about half an inch, and the latter two inches and a half.

This bird, in our climate, has the sweetest song of all others: the notes of other birds, indeed, are louder, and their inflections more capricious; but the redbreast's voice is soft, tender, and well supported; and the more to be valued, as we enjoy it the greatest part of the winter.

During the spring, this well-known bird haunts the wood, the grove, and the garden, and retires to the thickest and shadiest hedge-rows to breed in: and in winter endeavours to support itself by chirping round the warm habitations of mankind, and by coming into those shelters where the rigour of the season is artificially expelled, and where insects are found in the greatest numbers, attracted by the same cause.—The female lays four to five eggs, of a dull white colour, diversified with redish streaks.

THE LARK.

ALL the birds of this name, including the sky-lark, the wood-lark, and the tit-lark, are distinguishable from other small volatiles by the length of their heels: they are also louder in their song, but not so pleasing. Indeed the music of every bird in captivity is but the mirth of a little animal insensible of its unfortunate situation: it is the scenery of the umbrageous grove or rural landscape, the golden break of day, the fluttering from branch to branch, the soaring in the air, or the answering of its young, that gives the bird's song its true relish, and elevates the mind to a state of the highest, yet most harmless exultation. Nothing in this point of view, can be more gratifying than to hear the lark warbling upon the wing; raising its note as it soars aloft; then descending with a swell as it comes from the clouds, yet sinking by degrees as it approaches its nest, the spot where all its affections are centered, the spot which has excited all its joy, and called forth those harmonious strains.

The female builds her nest upon the ground, beneath some turf that serves to screen it from observation: she lays four or five eggs, of a dusky hue; and when her little family come forth, she may be seen fluttering over their heads, directing their motions, anticipating their wants, and sedulously guarding them from danger. Indeed, the instinctive attachment which this animal bears to her young is sometimes discovered at a very early period; and even before she is capable of becoming a mother.

The common food of the young larks is worms and insects; but after they are grown up, they live chiefly on seeds, herbage, and most other vegetable substances.

THE BULLFINCH.

THIS is a very common bird, and, when at full growth, measures, from the point of the bill to the end of the tail, six inches, of which the tail is two. It has a black short bill, very strong and crooked, the upper part hanging over the under like that of a hawk; the tongue short, and the eyes of a hazel colour; the head and neck, in proportion to the body, larger than the generality of small birds, from which, most probably, they derived their name. In some places they are called ropes; in others, thick-bills; and in some, hoops; probably from their wild hooping kind of note.

The bullfinch makes its nest of an ordinary mean fabric, in bushes, in which the female lays five or six eggs, of a blueish colour, with dark brown and redish spots. In the summer, it mostly frequents woods, and the more retired places; but in winter it approaches gardens and orchards, where it makes great havoc among the buds of trees.

The cock is in size equal to the hen, but has a flatter crown, and excels her in the beauty of his colours. In a state of nature, this bird has but three cries, all of which are unpleasant: but if man deigns to instruct it methodically, and accustoms it to fine, mellower, and more lengthened strains, it will listen with attention; and the docile bird, whether male or female, without relinquishing its native airs, will imitate exactly, and sometimes even surpass, its master.

These birds must not be taken too young; they should be at least twelve days old: at first they must be fed the same as the young linnet, chaffinch, &c. with bread, milk, and rape-seed, made into a paste; and, when grown up, with rape and canary-seed, three-fourths rape, and

one-fourth canary. They, as well as the starlings, require much pains to be taken with them in the early part of their education, and should never be fed without what they are wished to learn being repeated to them; they soon grow attentive, and generally by the time they are three months old, will begin to repeat to themselves, after which, a very few lessons will render them perfect.

THE NIGHTINGALE.



THIS universally-admired songster is not remarkable for the variety or richness of its tints; the upper part of the body being of a rusty brown, tinged with olive; the under parts of a pale ash colour, inclining to white about the throat and belly. Its music, however, is exquisitely soft and harmonious, and is rendered still more pleasing as being exerted in the night, when the other warblers are all silent.

The nightingale visits England in the beginning of April, and generally retires in August. It is only found in some of the southern parts of this country, being totally unknown in Scotland, Ireland, and North Wales; and as it generally keeps in the middle of its favourite bush, or tree, it is but rarely seen. The female constructs her nest of the leaves of trees, straw, and moss, and usually lays four or five eggs; but it seldom happens in our climate that all these come to maturity. While she performs the duty of incubation, the male sits on some adjacent branch, to cheer the tedious hours by his harmonious voice, or by the short interruptions of his song to give her timely notice of approaching danger.

THE SWALLOW.

THE swallow and its varieties may be easily distinguished by their short slender feet, and their large mouths which, when they fly, are always kept open; their wings are also of immoderate extent for their bulk; their plumage is glossed with a rich purple; and their note is a slight twittering, which they seldom exert but upon the wing.

Early in the spring, when the solar beams begin to rouse the insect tribes from their annual state of torpidity, the swallow is seen returning from its long migrations beyond the ocean; and in proportion as the weather grows warmer, and its insect supply increases, it gathers strength and activity. The female builds her nest with great industry, on the tops of chimneys, and sometimes breeds twice a year. The greater part of these birds quit our island at the latter end of September; but some are said to retire to holes and caverns, where they pass the winter in a state of torpidity.

THE MARTIN.

THIS bird is inferior in size to the swallow, and its tail is much less forked. The plumage, however, is nearly

the same; the upper part of the body, wings, and tail, being black, glossed with purple; and the under parts white. These birds sometimes build against the sides of cliffs that overhang the sea; but more frequently under the eaves, in the corners of windows, or under cornices. The materials of the nest are earth, tempered and mixed with straw, and lined with feathers.

It would be extremely difficult to bring up the birds in a state of confinement; owing to their subsisting entirely upon insects.

THE CANARY.

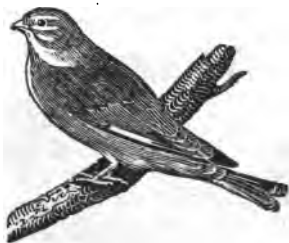


THE canary-bird, or canary-finch, was originally peculiar to those islands from whence the name is derived. They appear to have been first brought into Europe about the fourteenth century; but they are now so commonly bred in our own country, that they may be easily procured. It is about five inches and a half in length; the bill is of a pale flesh colour; the plumage is in general yellow, more or less mixed with grey, and in some with brown on the upper part; the tail is somewhat forked; the legs are a pale flesh-colour.

There are twenty-nine varieties, and many more might be added to the list. In the places fitted up for the rearing and breeding these charming birds, we are delighted to see the workings of nature exemplified in the choice of their mates, building their nests, hatching and rearing their young, and in the impassionate ardour exhibited by the male in assisting his faithful mate in collecting materials for her nest, in arranging them for her accommodation, in providing food for her offspring, or in chaunting his lively and amorous songs during every part of the im-

portant business. The canary will breed freely with the goldfinch; it likewise proves prolific with the linnet; and also admits, but unwillingly, the chaffinch, yellow-bunting, and even the sparrow, though with still more difficulty. In all these instances, the paring succeeds best, when the female canary is introduced to the male of the opposite species.

THE LINNET.



THIS favourite bird, which is universally admired for the melody of its voice, is in length, from the point of the bill to the end of the tail, five inches and a half; the bill blueish-grey; the eyes hazel; the upper parts of the head, neck, and back, are of a dark redish brown, the edges of the feathers pale; the under parts are of a dirty redish white; the breast is deeper than the rest, and in spring becomes a very beautiful crimson; the wings are spotted with brown likewise, with white edges, except the two middle feathers, which have no margins; the tail is somewhat forked; the legs are brown.

The linnet is so much esteemed for the sweetness of its singing, that, by many persons, it is thought to excel all small birds. It has certainly a curious fine note of its own, little inferior to the most celebrated birds, and may be taught likewise to pipe or whistle the song of any other bird; but as its own is so good, that trouble is unnecessary. It is, however, very apt in learning; and if brought up from the nest, will take the woodlark's or canary-bird's song to perfection. In some instances it has been said to pronounce words with great distinctness.

The cock-linnet may be known, either old or young, by these two marks; first, the feathers on his back are much browner than those of the hen; and secondly, by the white on three or four longest feathers of the wing: if it appear clear, bright, and broad, and reach up to the quills, it is a sure sign of a cock bird; for the white in the wing of the hen is much less, fainter, and narrower.

These birds commonly build in a thick bush, or hedge, and sometimes among furze-bushes, &c. making a small pretty nest, the outside of bent dried weeds, and other stubble matter, and the bottom all matted together; the inside of fine soft wool, mixed with down stuff, gathered from dried plants, with a few horse-hairs, made exceedingly neat and warm, on which she lays four, and sometimes five white eggs, with fine red specks, especially at the blunt end; and has young ones by the middle of April, or beginning of May. The young may be taken at ten days old, or sooner; it is very necessary, however, that they should be kept very warm, close, and fed at least once in every two hours. Their food at first should consist of rapè seed, soaked eight or ten hours in water, and afterwards boiled in a little milk.—They are particularly fond of linseed, from which it is supposed, they derive their name.

THE SPARROW.



THE sparrow is one of the most familiar of volatiles, constantly fluttering round our habitations, and seldom absent from our orchards and gardens. It is universally

hated by farmers as injurious to their rural economy ; yet its utility has been clearly proved to overbalance its depredations: for it has been known that a single pair of sparrows, during the time they have to feed their young, destroy on an average every week between thirty and forty thousand caterpillars, besides a variety of winged insects.

These birds generally build their nests under the eaves of houses, or in holes in the walls; and the affection of the female towards her young is equally strong and interesting.

THE NUTHATCH.



THERE are several species of this curious bird, but only one found in England, the length of which is five inches and three quarters long; the upper mandible is black, and the lower white. The tongue is short, horny at the end, and jagged. All the upper parts of the body are of blueish grey; the cheeks and chin are white; the breast and belly, pale orange-colour; and the quills dusky; the tail is short, and consists of twelve feathers, the two middle ones of which are grey, the two outer spotted with white, and the rest dusky. The legs are pale yellow.

This bird is shy and solitary, frequenting the woods, and running up and down the trees. It often moves its tail like the wagtail. The manners of all the other species very nearly correspond with the European nuthatch; most of them feed on insects, and some of them on hazel-nuts.

The female deposits her eggs, six or seven in number, in some hole of a tree, frequently in one that has been deserted by the woodpecker, on rotten wood mixed with moss.—The nuthatch does not migrate, but in winter approaches nearer inhabited places, and is sometimes seen in orchards and gardens.

THE HOOPOE.



THE length of this bird is twelve inches, and its breadth nineteen. The bill is above two inches long, black, slender, and somewhat curved; the eyes hazel; the tongue very short and triangular; the head is ornamented with a crest, consisting of a double row of feathers, of a pale orange colour, tipped with black, the highest about two inches in length; the neck is of a pale redish brown; the breast and belly white, which, in the young ones, are marked with various dusky lines, pointing downwards; the back, scapular, and wings, are crossed with broad bars of black and white: the lesser coverts of the wings, light brown; the rump is white; the tail consists of ten feathers, each marked with white, which when closed, assumes the form of a crescent, the horns pointing downwards: the legs are short and black. There is only one species of this bird found in this kingdom, and even that is not very common, being seen only at uncertain periods.

The female is said to have two or three broods in the year: she makes no nest, but lays her eggs in the hollow of a tree, and sometimes in a hole in a wall, or even on the ground. It is a solitary bird, two of them being seldom seen together. In Egypt, where they are very

common, they are seen only in small flocks. Its crest usually falls behind on its neck, except when it is surprised or irritated, and then it stands erect.

THE CHAFFINCH.



THE bill is of a pale blue, tipped with black; the eyes hazel; the forehead black; the crown of the head, and the hinder part and sides of the neck, are of a blueish ash colour; sides of the head, throat, fore part of the neck, and the breast, are of a vinaceous red; belly, thighs, and vent, white, slightly tinged with red; the back of a redish brown, changing to green on the rump: both greater and lesser coverts are tipped with white, forming two pretty large bars across the wing; the bastard wing and quill feathers are black, edged with yellow; the tail, which is a little forked, is black, the outermost feather edged with white; the legs are brown. The female wants the red upon the breast; her plumage in general is not so vivid, and inclines to green; in other respects it is not much unlike that of the male.

This beautiful little bird is every where well-known; it begins its short and repeated song early in the spring, and continues it till about the middle of summer, after which it is no heard more. The female generally lays five or six eggs, of a pale redish colour, sprinkled with dark spots, principally at the larger end. The male is very assiduous in his attendance during the time of hatching, seldom straying far from the place, and then only to procure food. Chaffinches subsist chiefly on small seeds of various kinds; they likewise eat caterpillars and insects, with which they also feed their young. They are seldom kept in cages, as their song possesses no variety, and they

are not very apt in learning the notes of other birds. The males frequently maintain obstinate combats, and fight till one of them is vanquished, and compelled to give way. In Sweden these birds perform a partial migration; the females collect in large flocks at the latter end of September, and, leaving their mates, spread themselves through various parts of Europe: the males continue in Sweden, and are again joined by their females, who return in great numbers, about the beginning of April, to their wonted haunts.

THE KINGFISHER.



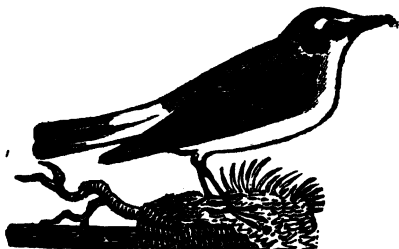
THIS, which is the most beautiful of all British birds, is seven inches in length, and eleven in breadth. The bill is near two inches long, and black. The tongue is fleshy, short, flat, and acute. The top of the head and the sides of the body are of a dark green, marked with transverse spots of blue; the tail is of a deep blue, and the other parts of the body are dusky orange, white, and black; the legs are red; the wings are short, but they fly very swiftly.

The kingfisher is found throughout Europe. It preys on the smaller fish, and sits frequently on a branch projecting over the current; there it remains motionless, and often watches whole hours to catch the moment when a little fish springs under its station; it dives perpendicularly into the water, where it continues several seconds, and then brings up the fish, which it carries to land, beats to death, and then swallows; but afterwards throws up the indigestible parts.

When this bird cannot find a projecting bough, it sits on some stone near the brink, or even on the gravel; but the moment it perceives a fish, it takes a spring upward of twelve or fifteen feet, and drops perpendicularly from that height. Often it is observed to stop short in its rapid course, and remain stationary, hovering over the same spot for several seconds. Such is its mode in winter, when the muddy swell of the stream, or the thickness of the ice, constrains it to leave the rivers, and ply along the sides of the unfrozen brooks.

This bird lays its eggs, to the number of seven or more, in a hole in the bank of the river or stream that it frequents; the eggs are considerably larger than those of the yellow-hammer, and of a transparent white.

THE WHEAT-EAR.



THIS bird weighs upwards of an ounce, and has a slender black bill, about half an inch long; the tongue is cloven, or slit; and the inside of the mouth black; the eyes are of an hazel colour, above which there is a pale line passes towards the hinder part of the head; and below them, a large black one, which extends itself from the corners of the mouth to the ears. The head and back appear of a vinereous colour, with a mixture of red; the rump is generally white, from whence, by some, it has the name of white-tail; the belly is white, faintly dashed with red; the breast and throat more deep; the coverts and quills are black, with their extreme edges white, tingured with a dusky red; the tail is something more than two inches long, and all white.

The wheat-ear visits England annually in the middle of March, and leaves us in September. The females come first, about a fortnight before the males; and they continue to come till the middle of May. In some parts of England they are found in vast plenty, and are much esteemed. About East-Bourne, in Sussex, they are taken in snares made of horse-hair, placed beneath a long turf. Being very timid birds, the motion even of a cloud, or the appearance of a hawk, will immediately drive them into these traps. These traps are first set every year on St. James's day, (July 25th) soon after which they are caught in astonishing numbers, considering that they are not gregarious, and that not more than two or three are scarcely ever seen flying together. The number annually ensnared in the district of East-Bourne alone, is said to amount to nearly two thousand dozen. The birds caught are chiefly young ones, and they are invariably found in the greatest number when an easterly wind prevails.

It is supposed, that the vast quantity of these birds which are found on the downs about East-Bourne, are occasioned by a species of fly, their favourite food, that feeds on the wild thyme, and abounds in the adjacent hills. A few of these birds breed in the old rabbit-burrows there. The nest is large, and made of dry grass, rabbit's down, a few feathers, and horse hair. Their eggs are from six to eight, and are of a light colour.

THE CROSS-BILL.



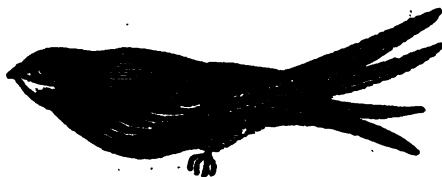
THIS bird is about the size of a lark, being nearly seven inches in length. It is distinguished by the peculiar formation of its bill, the upper and under coming in opposite directions, and crossing each other at the points

Its eyes are hazel; its general colour redish, mixed with brown on the upper parts; the under parts are considerably paler, being almost white at the vent; the wings are short, not reaching further than the setting on of the tail, they are of a brown colour; the tail is of the same colour, and somewhat forked; the legs are black. Its colours are extremely subject to variation, both male and female appearing very different at different times in the year.

Notwithstanding the apparent awkwardness of their beaks, they are able, by bringing the mandibles point to point, even to pick up and eat the smallest seeds. This bird, when kept in a cage, has all the actions of a parrot, climbing, by means of its crooked bill, from the lower to the upper bars. It is an inhabitant of the colder climates, and has been found as far as Greenland. It breeds in Russia, Sweden, Poland, and Germany, in the mountains of Switzerland, and among the Alps and Pyrenees, from whence they migrate in vast flocks into other countries. It is sometimes met with in great numbers in this country, but its visits are not regular.

The principal food of these birds is said to be the seeds of the pine-tree; the German bird-catchers generally feed them with poppy and other small seeds; and they shell hemp seeds in eating them as well as any other birds whatever. The female begins to build, as early as January, her hemispherical nest in the bare branches of the pine-tree, fixing it with the resinous matter which exudes from that tree, and besmearing it on the outside with the same substance, so that melted snow or rain cannot penetrate it. In this she lays a few whitish eggs, spotted towards the thicker end with red. They are somewhat rare in this country.

THE SWIFT.



THIS is the largest of the swallow kind known in these climates, being often eighteen inches long, though the entire weight of the bird is not more than one ounce. The

whole plumage a sooty black, except the throat, which is white. The feet, which are so small, that the actions of walking and rising from the ground seem very difficult, are of a particular structure, all the toes standing forward. It spends more of its time on the wing than any other swallow, and its flight is more rapid. It breeds under the eaves of houses, in steeples, and other lofty buildings; and makes its nest of grass and feathers.

The voice of the swift is a harsh scream; yet there are few ears to which it is not pleasing, from an agreeable association of ideas, since it is never heard but in the most lovely summer weather.

These birds retire from this country before the middle of August, generally by the tenth, and not a single straggler is to be seen by the twentieth. This early retreat is totally unaccountable, as that time is often the most delightful in the year. But what is yet more extraordinary, they begin to retire still earlier in the most southerly parts of Andalusia; where they can by no means be influenced by any defect of heat, or even of food. This is one of those incidents in Natural History, which not only baffles our researches, but elude our conjectures; an incident that none but Him who supports them can resolve.

THE INDIAN BEE-EATER.



THE Indian bee-eater, is about the size of a common blackbird, and has a bill near two inches long; the eyes are of a fine red; a black stroke is extended on each side of the head, which begins at the corners of the mouth, and passes beyond the eyes. The base of the upper chap,

and under the chin, is covered with bright pale blue feathers: the upper and back part of the head, of a dusky yellow; the back and wings of the same colour, only shaded pretty strongly with green; the tips of the quill-feathers brown; the breast and belly green; the thighs and under part, near the vent, of a pale yellow, with a small green mixture. The tail consists of about twelve feathers; the outermost on each side, are of a green and yellow mixture, about three inches in length; the two middlemost twice that length, ending in sharp points, of a brown or dusky colour; the legs and feet black.

They principally feed on bees, beetles, grasshoppers, and other insects. They build in hollow places or caverns three or four cubits deep, and lay six or seven eggs.

THE PIED FLY-CATCHER.



THIS bird's length is nearly five inches; the bill black; eyes hazel; the forehead is white; the top of the head, the back, and tail, are black; the rump is dashed with ash colour; the wing coverts are dusky, the greater coverts are tipped with white; the exterior sides of the secondary quills are white, as are also the outer feathers of the tail; all the under parts, from the bill to the tail, are white; the legs are black. The female is much smaller, but longer tailed than the male; she is brown where he is black; she likewise wants the white spot on the forehead.

They are most plentiful in Yorkshire, Lancashire, and Derbyshire. They build their nests in holes of trees; the parent birds incessantly feed their young with small flies, which they are very expert in catching.

THE PARROT.

THE parrot is the best known among us of all foreign birds, as it unites the most beautiful plumage with the greatest docility, Its voice also is more like a man's than any other; the raven is too hoarse, and the jay and magpie too shrill, to resemble the truth; but the parrot's note is of the true pitch, and capable of a variety of undulations.

In their native woods, these birds live together in flocks, and generally breed in hollow trees, where they make a round hole for the accommodation of their young; but do not take the trouble of lining it within. They lay two or three eggs, about the size of those of a pigeon, and marked with little specks. The natives are very assiduous in seeking out their nests, and usually take them by cutting down the tree. By this means, indeed, the young parrots are liable to be killed; but if one of them survive, it is considered as a sufficient recompence.—The old ones are shot with heavy arrows headed with cotton, which knock them down without killing them.

The facility with which the parrot is taught to speak, and the great number of sentences it is capable of repeating, are equally surprising.—But its agreeable qualities are counterbalanced by the mischievous inclination it has to gnaw whatever it can reach.

The food commonly given to these birds, consists of hemp-seed, nuts, fruits of every kind, and bread soaked in wine: they would prefer meat, but that kind of aliment has been found to make them dull and heavy, and to cause their feathers to drop off after some time. It has been observed, that they keep their food in a kind of pouch, from which they afterwards throw it up in the same manner as ruminating animals.

THE REDSTART.

THIS bird measures rather more than five inches in length. Its bill and eyes are black; its forehead is white; cheeks, throat, fore part of the sides, and neck, black, which colour extends over each eye; the crown of the head, hinder part of the neck, and the back, are of a deep blue grey; in some birds, probably old ones, this grey is almost black; its breast, rump, and sides, are of a fine glowing red, inclining to orange colour, which extends to all the feathers of the tail, excepting the two middle ones, which are brown; the belly is white; feet and claws black. The female differs considerably from the male, her colours are not so vivid; the top of her head and back are of a grey ash colour, and the skin is white.

The redstart is migratory: it appears about the middle of April, and departs in the latter end of September, or beginning of October; it frequents old walls and ruinous edifices, where it makes its nest, composed chiefly of moss, lined with hair and feathers. It is distinguished by a peculiar quick shake of its tail from side to side, on its alighting on a wall or other place. Though a wild and timorous bird, it is frequently found in the midst of cities, always choosing the most difficult and inaccessible places for its residence: it likewise builds in forests, in holes of trees, or in high and dangerous precipices. The female lays four or five eggs, not much unlike those of the hedge-sparrow, but somewhat longer. These birds feed on flies, spiders, the eggs of ants, small berries, soft fruits, and such like.

THE COCKATOO.

THE cockatoo is a beautiful bird of the parrot kind: its plumage is white, its beak round and crooked, and its head is adorned with a crest of long feathers, which are capable of being erected or lowered at pleasure, and give the bird a most striking fine appearance. It is a native of the Molucca islands, and other parts of the East Indies, where it is frequently known to build on the tops of houses. Like the rest of the parrot kind, it is capable of uttering sea phrases and sentences, with equal propriety of tone and volubility.

THE BLACKCAP.

THIS bird is somewhat above five inches in length. The upper mandible is of a dark brown colour; the under one light blue, and the edges of both whitish; top of the head black; sides of the head, and back of the neck, ash-colour; back and wings, of an iron grey; the throat and

breast are of a silvery grey: belly white; the legs are of a blueish colour, inclining to brown; the claws black. The head of the female is of a dull rust colour.

The black-cap visits us about the middle of April, and retires in September; it frequents gardens, and builds its nest near the ground; it is composed of dried grass, moss, and wood, and lined with hair and feathers. The female lays five eggs, of a pale redish brown, sprinkled with spots of a darker colour. During the time of incubation, the male attends the female, and sits by turns; he likewise procures her food, such as flies, worms, and insects. This bird sings sweetly, and so like the nightingale, that in Norfolk it is called the mock-nightingale. Black-caps feed chiefly on flies and insects, and not unfrequently on ivy and other berries.

THE WAGTAIL.



THIS is a slender-bodied bird, that weighs about six drachms, and is about seven inches and a half from the tip of the bill to the end of the tail, and about eleven from the point of each wing, when extended. It has a slender, straight, sharp bill, of a black or dusky colour, upwards of an inch long; the circles of the eyes brown, or hazel-coloured, with a large white spot encircling each eye; and another or two underneath it, on each side of the throat; the top of the head and the fore part of the neck, or throat, and the upper part of the back, are all black. Some of the tips of the quill-feathers are white, which form a small white line upon the wing, and another is also formed by the white edges of some of the rows of the covert feathers, the lower parts of the breast and belly are both white. The tail is about three inches long, which are almost continually in motion, wagging up and down, from whence it is supposed to derive the name of

wagtail; the outer feathers are chiefly white, the rest black. The claws are sharp pointed, and pretty long, of a dusky or blackish colour.

These birds are frequently seen about the brinks of rivers, ponds, and small pools of water. and also amongst the low grass in dewy mornings, where they feed upon flies, worms, beetles, and other small insects. They build under the eaves of houses, and in holes in the walls of old buildings, and lay four or five eggs.

There is another species, called the wagtail, from the colour of its head, neck, and back. It is somewhat larger than the common wagtail, owing to the great length of its tail. It has a dark brown bill, and over each eye a pale streak; the throat and chin are black, and all the under parts of the body are a bright yellow; the wing-coverts and quills are dark brown, the former with pale edges; the secondaries, which are almost as long as the greater quills, are white at the base, and tipped with yellow on the outer edges; the middle feathers of the tail black, the outer ones white, and the legs are yellowish brown. The female builds her nest on the ground, and sometimes in the banks of rivulets, laying from six to eight eggs, of a dirty white, marked with yellow spots.

The wagtails change their quarters in winter, from the north to the south of England.

THE YELLOW-HAMMER,



The yellow-hammer is about the size of a sparrow. Its head is of a greenish yellow, spotted with brown; the throat and belly are yellow; the breast and sides, under the wings, mingled with red; the tail flesh colour. These birds build upon the ground, and are common in most parts of England.

THE TITMOUSE.

THE titmouse, which is also called the tomtit, is about four inches and a half in length, and has a straight black bill, about half an inch long, pretty thick. The upper part of the head, and the chin, are black, with a large spot of white beginning at the base of the bill, and passing under the eyes to the sides of the neck; which colour descends as low as the shoulders and middle part of the back, where it appears more shaded with a glossy green; the rump is of a fine blue; the quill feathers have some of their tips white, some blue, others green; the covert feathers, by their white tips, make a small transverse white line upon each wing. The breast, belly, and thighs, are yellow, with a broad black line passing from the throat down the middle of the breast to the vent. The tail is about two inches and a half long, of a black colour, except the outward edges of some of the feathers, which are blue. The legs and feet are a sort of lead colour.

These birds feed on insects, seeds, and fruit. They are very prolific, laying eighteen or twenty eggs at a time. Some of them will venture to assault birds that are twice or thrice their own bulk, and in this case they direct their aim chiefly at the eyes. They often seize upon birds that are weaker than themselves; which they kill, and having picked a hole in their skull, eat out their brains. This bird is distinguished above the rest of its kind, by its ran-cour against the owl.

There are many varieties of this bird; the greater titmouse is about five inches in length. The nests of almost every kind are constructed with the most exquisite art, and with materials of the utmost delicacy; such as moss, hair, and the web of spiders, with which the whole is strongly tied together.

THE HUMMING-BIRD.

Of this curious little bird there are six or seven varieties, from the size of a small wren, down to that of a humble-bee. The smallest humming-bird is about the size of a hazel nut. The feathers on its wings and tail are black; but those on its body, and under its wings, are of a greenish brown, with a fine red gloss, which no silk or velvet can imitate. The bill is black and slender, and the head is adorned with a small crest, which sparkles in the sun, like a little star in the middle of the forehead. The larger humming-bird, which is nearly half as big as the wren, is without a crest; but to make amends, it is covered from the throat half-way down the belly, with crimson feathers, that, in different lights, change to a variety of different colours. The heads of both are small, with little round eyes, as black as jet.

It is inconceivable how much these little creatures add to the high finishing of a luxuriant western landscape. In the West Indies, and South America, as soon as the sun is risen, the humming-birds of different kinds are seen fluttering about the flowers, without ever alighting upon them, their wings are in such rapid motion; visiting flower after flower, and extracting its nectar, as if with a kiss; while the motion of their wings produces a humming sound, which first gave rise to their name.

The nests of these birds, which are about the size of a hen's egg cut in two, are not less curious than the rest; they are suspended in the air, at the point of the twigs of an orange, a pomegranate, or a citron tree; and are composed of cotton, fine moss, and the fibres of vegetables. The female lays two eggs about the size of small peas, and as white as snow, with here and there a yellow speck; and at the end of twelve days the young ones appear. These are at first bare, but are gradually covered with down, and at last with feathers.

THE BIRD OF PARADISE,

HAS been called so, we may fairly suppose, on account of its being generally seen on the wing, and flying in the tropic zone, at a small distance from the land; its appearance being most welcome to the tired sailor and longing passenger, generally causes much happiness by its foretelling the vicinity of terra firma. The head is small, but adorned with colours which can vie with the brightest of the peacock's embellishments: the neck is of a fawn tint, and the body very small, but covered with long feathers of a browner hue, tinged with gold; two feathers issue from the rump, and constitute the tail. These volatiles, whose beauty exceeds that of all others, are natives of the Molucca islands, and are frequently seen in large flocks among the delightful and spicy woods of that country.

The usual method of taking these birds is by shooting them with reed arrows; after which their legs are amputated, their entrails taken out, and their bodies filled with spices, preparatory for sale to the Europeans.

These birds' feathers are a favourite ornament of the South American ladies.

THE TOUCAN.



THIS curious bird is about twenty inches in length; the bill is six inches long, and near two inches thick at the base, of a yellowish green colour, redish at the tip. The nostrils are at the base of the bill, but are not covered with feathers, as in some of the species. The principal upper parts of the body, and the breast and neck, are of a glossy black, with a tinge of green; the lower part of the back, the rump, upper part of the tail, and small feathers of the wings, are the same, with a cast of ash-colour; the breast is of a fine orange. The belly, sides, thighs, and the short feathers of the tail, are a bright red; the remainder of the tail is of a greenish black, tipped with red: the legs and claws are black. This bird is easily tamed, and will eat almost any thing offered to it; in general, it feeds on fruits.

The female builds her nest in the holes of trees, that are either formed by herself, or that from accident she meets with, and lays two eggs; and no bird better secures its young from external injury. It has not only birds, men, and serpents, to guard against, but a numerous train of monkeys, still more prying, mischievous, and hungry, than all the rest. The toucan, however, sits in its hole, defending the entrance with its great beak; and if the monkey ventures to offer a visit of curiosity, the toucan gives him such a welcome, that he is soon glad to escape.

This bird is a native of Guinea and Brazil, and is said to be in great request in South America; both from the delicacy of its flesh, and on account of the beauty of its plumage, particularly the plumage of the breast. The skin of this part the Indians pluck off, and, when dry, glue to their cheeks: this they consider an irresistible

addition to their beauty. It is probable that these birds have more than one brood in the year.

They generally feed on fruits, and are continually moving from place to place in quest of food, going northward or southward as the fruits ripen.—These birds when in flocks, on retiring to rest, generally appoint one to watch during the night.

THE FERN OWL.



THIS is a very beautiful bird for colour, and somewhat resembles the cuckoo; but it is easily distinguished from all other birds, by the structure of its bill and feet: its bill, in proportion to its body, is the least of all birds, and a little crooked: it has a huge wide mouth and swallow. On the sides of the upper mandible, as also beneath the lower one, are some black hairs, like bristles; the under side of the body is painted with black and red; the legs are very small in proportion, feathered in front half way.

It frequents rocks, caverns, and ruined buildings, and builds its nest, which is constructed in the rudest manner, in the most retired places; it lays five eggs, spotted with white and yellow. It sees better in the day-time than other small birds on the wing; it likewise feeds on mice, which it tears to pieces with its bill and claws, and swallows them by morsels: it is said to pluck the birds which it kills before it eats them, in which it differs from all the other owls. It is rarely met with in England: it is sometimes found in Yorkshire, Flintshire, and in the neighbourhood of London.

THE PELICAN,

ALL water-fowl generally fall under three natural divisions, viz. those of the gull kind, that with long legs and round bills, fly along the surface of the water, to seize their prey;—those of the penguin kind, that with round bills, short wings, and legs hid in the abdomen, dive in quest of food;—and, lastly, those of the goose kind, with flat broad bills, that lead harmless lives, and chiefly subsist upon insects and vegetables.—In describing the birds of these classes, therefore, we shall put the most remarkable of each at the beginning of their respective tribes, and the more ordinary sorts will naturally follow. We must, however, previously give the history of the above bird, which, from the singularity of its conformation, seems allied to no particular species.

The pelican of Africa resembles the swan in shape and colour, but far exceeds it in size. The singularity, however, which distinguishes it from all other birds, is in the bill and the great pouch underneath, which merit a particular description.

The bill of this bird is fifteen inches long, from the point to the opening of the mouth, which is a good way behind the eyes: it is very thick at the base, where it is of a greenish tint, but tapers off towards the end, which curves downward, and is of a redish blue: at the lower edge of the under chap hangs a pouch, capable of containing fifteen quarts of water, and reaching the whole length of the bill to the neck; this bag is covered with a very soft and smooth down, and, when empty, is scarcely

perceptible, as the bird has the power of wrinkling it up into the lower jaw.—This bird was formerly known in Europe, particularly in Russia; but at present it is only found in Africa and America.

The pelican has strong wings furnished with thick plumage of an ash-colour, as are the rest of the feathers over the whole body. The eyes are very small, when compared with the size of the head, and there is something in the countenance very sad and melancholy.

These birds are torpid and inactive to the last degree, so that nothing can exceed their indolence but their gluttony; for were they not excited to labour by the stimulations of hunger, they would always continue in fixed repose. When they have raised themselves about thirty or forty feet above the surface of the sea, they turn their head with one eye downward, and continue to fly in that posture. As soon as they perceive a fish sufficiently near the surface, they dart down with the swiftness of an arrow, seize it with unerring certainty, and store it up in their pouch; they then rise again, and continue hovering and fishing till their bag is filled; when they retire to land, and greedily devour the fruits of their industry. Towards night they again feel the stings of hunger, and reluctantly resume their labour; after which they take up their nocturnal abode in some high tree.

The same habits of indolence seem to attend the pelican in every situation; for the female makes no preparation for the duties of incubation, but drops her eggs on the bare ground, to the number of five or six, and there continues to hatch them. Her little progeny, however, seem to call forth some maternal affections; for its young have been taken and tied by the leg to a post, and the parent bird has been observed for several days to come and feed them; remaining with them the greatest part of the day, and spending the night on the branch of a tree that hung over them. By these means they became so familiar that they suffered themselves to be handled; and they very readily accepted whatever fish was given to them; these they always put first into their pouch, and then swallowed them at leisure.

Notwithstanding their natural indolence and stupidity, these birds appear to be susceptible of instruction in a domestic state; for some of them have been known to go off at the word of command, and return with their pouches distended with plunder to their masters.

THE CORMORANT.

THIS bird is about the size of a Moscovy duck, with the head and neck of a sooty blackness, and the body thick and heavy, more inclining in figure to that of the goose than the gull: its distinguished character, however, consists in its toes being united by membranes, and by the middle toe being notched like a saw, to assist it in holding its fishy prey.

On the approach of winter, these birds are seen dispersed along the sea-shore, and ascending the mouths of rivers, carrying destruction to all the finny tribe, as they are remarkably voracious, and have such a quick digestion, that their appetite appears completely insatiable.— They build their nests on the highest parts of the cliffs that overhang the sea; and the female usually lays three or four eggs, about the size of those of the goose, and of a pale green colour.

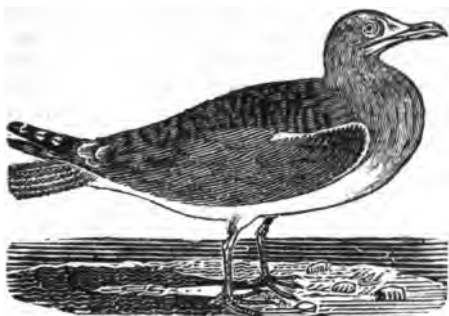
In China these birds are said to be brought up tame, for the purpose of fishing, and that one man can easily manage a hundred of them. When a fisherman intends to fish, he carries them out into the lake, perched on the gunnel of the boat, where they continue tranquil, and expect his orders with patience: when arrived at the proper place, each flies a different way, on a given signal, to fulfil the task assigned it; and it is very pleasant on this occasion to observe with what sagacity they per-

tion out the lake or canal where they are upon duty. They hunt about, they plunge, they rise a hundred times to the surface, until they have at last found their prey; they then seize it with their beaks by the middle, and carry it to their masters: when weary they are suffered to rest for awhile, but they are never fed till their work is over. In this manner they supply a very plentiful table; but still their natural voracity cannot be restrained even by education. While they fish, they have always a string fastened round their throats, to prevent them from devouring their prey; as otherwise they would soon satiate themselves, and discontinue their pursuit.

THE FULMAR.



THIS bird is the largest of the petril kind, which is known in these climates: it is superior in size to the common gull, being about fifteen inches in length, and in weight seventeen ounces. The tail is very strong, yellow, and hooked at the end: the head, neck, and all the under parts of the body, are white; the back and wings are ash-coloured; the quills dusky; and the tail white. It feeds on the blubber of whales, which supplies the reservoir, whence it spouts with a constant stock of ammunition. This oil is esteemed by the inhabitants of the north, as a sovereign remedy in many complaints both external and internal: the flesh is also considered by them as a delicacy; and the bird is therefore in great request at St. Kilda. It is said, that, when a whale is taken, these birds will, in defiance of all endeavours, light upon it, and pick out large lumps of fat, even while it is alive.

THE BLACK AND WHITE GULL.

THIS is by far the largest of all the gull kind, weighing generally upwards of four pounds, and being twenty-five or twenty-six inches from the point of the bill to the end of the tail; and from the tip of each wing, when extended, five feet and several inches. The bill appears compressed sideways, being more than three inches long, and hooked towards the end, like the rest of this kind, of a sort of orange colour; the nostrils are an oblong form; the mouth wide, with a long tongue and very open gullet. The irides of the eyes are of a delightful red: the wings, and the middle of the back, are black; but the tips of the covert and quill feathers are white: the head, breast, tail, and other parts of the body, are likewise white. The tail is near six inches long; the legs and feet flesh-coloured, and the claws black. It is a sea fowl, and preys upon fishes, which have been taken whole from its stomach.—There are about twenty varieties of this tribe, which are all distinguished by an angular knob on the chap.

Gulls are found in great plenty in every place: but it is chiefly round our rockiest shores that they are seen in the greatest abundance: it is there that the gull breeds and brings up its young; it is there that millions of them are heard screaming with discordant notes for months together.

These birds, like all others of the rapacious kind, lay but few eggs; and hence, in many places, their number is daily seen to diminish. The lessening of so many ra-

pacious birds may, at first sight, appear a benefit to mankind; but when we consider how many of the natives of our islands are sustained by their flesh, either fresh or salted, we shall find no satisfaction in thinking that these poor people may in time lose their chief support. The gull, in general, as was said, builds on the ledges of rocks, and lays from one egg to three, in a nest formed of long grass and sea-weed. Most of the kind are fishy tasted, with black, stringy flesh; yet the young ones are better food; and of these, with several other birds of the penguin kind, the poor inhabitants of our northern islands make their wretched banquets: they have been long used to no other food; and even a salted gull can be relished by those who know no better food.

THE STORMY PETRIL.



THE stormy petril is not larger than a swallow; and its colour is entirely black, except the coverts of the tail, the tail itself, and the vent feathers, which are white. Its legs are long and slender.

It is found in most seas, and frequently at a vast distance from the land, where it braves the utmost fury of the storm, sometimes skimming with incredible velocity along the billows of the waves, and sometimes over their summits: it is also an excellent diver, and often follows vessels to pick up any thing that is thrown overboard; but its appearance is always looked upon by the sailors as the sure presage of stormy weather in the course of a few hours. It seems to seek for protection from the fury of the wind, in the wake of the vessel; and very probably it is for the same reason, that it often skims along between two surges.—The nests of these birds are found in

the Orkney islands, under loose stones, in the months of June and July. They live chiefly on small fish; and although mute by day, are very clamorous during the night.

There are about twenty species of foreign birds of this kind. In the high southern latitudes one is found, which is the size of a goose, and on that account is called the giant petrel. The upper parts of its plumage are pale brown, mottled with dusky white; the under parts are white.

THE GREAT TERN.



THIS bird is about fourteen inches long, and weighs four ounces and a quarter. The bill and feet are of a fine crimson; the former is tipped with black, and very slender: the back of the head is black; the upper part of the body is of a pale grey, and the under part white. They have been called sea swallows, from appearing to have all the same actions at sea as swallows have on land, seizing every insect which appears on the surface, and darting down upon the smaller fishes, which they seize with incredible rapidity.

The lesser tern weighs only two ounces and five grains. The bill is yellow; and from the eyes to the bill is a black line: in other respects it almost exactly resembles the preceding.

The black tern is of a middle size between the two preceding species. It weighs two ounces and a half. It receives its name from being all black as far as the vent, except a white spot under the throat. This bird in some parts is called the ear swallow. It is very noisy.

THE GREAT AUK.

THIS bird is the size of a goose; its bill is black, about four inches and a quarter in length, and covered at the base with short velvet-like feathers: the upper parts of the plumage are black, and the lower parts white, with a spot of white between the bill and the eyes, and an oblong stripe of the same on the wings, which are too short for flight. It is a very bad walker, but swims and dives well. It is, however, observed by seamen, that it is never seen out of soundings, so that its appearance serves as an infallible direction to land. It feeds on the lump-fish, and others of the same size; and is frequently met with on the coasts of Norway, Greenland, Newfoundland, &c. It lays its eggs close to the sea mark.

There is another bird of this description, called the penguin, which seems to hold the same place in the southern parts of the world, that the auks do in the northern; being only found in the temperate and frigid zones of the southern hemisphere. It resembles the former in almost all its habits; walking erect, and being very stupid: it also resembles it in colour, mode of feeding, and of making its nest. These birds hatch their young in an erect position; and cackle like geese, but in a hoarser tone.

THE GUILLEMOT.

THIS bird is about the size of a common duck; the upper parts of the body are of a dark brown colour, inclining to a black, except the tip of some of the wing feathers, which are white; all the under parts of the body are also white. The tail is about two inches long.

These are simple birds, and are easily taken. They generally join in company with other birds, and breed on the inaccessible rocks and steep cliffs in the Isle of Man, and likewise in Cornwall; on Prestholm island, near Beaumaris, in the Isle of Anglesey; also on the Fern island, near Northumberland; and in the cliffs about Scarborough, in Yorkshire; and several other places in England. They lay exceeding large eggs, being full three inches long, blunt at one end, and sharp at the other, of a sort of blueish colour, spotted generally with some black spots, or strokes.

The lesser guillemot weighs about sixteen ounces: the upper parts of its plumage are darker than those of the former species. The black guillemot is entirely black, except a large mark of white on the wings. In winter, however, this bird is said to change to white; and there is a variety in Scotland not uncommon, which is spotted, and which has been described under the name of the spotted Greenland dove. The marbled guillemot, which is found at Kamtschatka, &c. receives its name from its plumage, which is dusky, elegantly marked with white.

THE PUFFIN.

THE puffin is about twelve inches in length; the eyes are ash-coloured, or grey; the upper part of the head and body are black; the lower parts white; it has a sort of black ring that encompasses the throat; the sides of the head are whitish, with a cast of yellow, or ash-colour; the wings are made up of short feathers, and are very small; they fly swift while they keep near the surface of the water, on account of wetting their wings as they proceed. They have black tails, about two inches long; their legs and feet are of an orange colour, and their claws, of a dark blue.

The bill is flat, but very different from that of the duck; its edge is upwards; it is of a triangular figure, ending in a sharp point; the upper chap is bent a little downward, where it is joined to the head; and a certain callous substance encompasses its base, as in parrots: it is of two colours; ash-coloured near the base, and red towards the point: it has three furrows, or groves, impressed in it; one in the livid part, and two in the red. The eyes are fenced with a protuberant skin, of a livid colour; and they are grey, or ash-coloured.

This bird, like the rest of the auk kind, has its legs thrown so far back, that it can hardly move without tumbling. This makes it rise with difficulty, and subject to many falls before it gets upon the wing; but as it is a small bird, not much larger than a pigeon, when it once rises, it can continue its flight with great celerity.

The puffin builds no nest; but lays its eggs and brings forth its young either in the crevices of rocks, or in holes

which it either finds or makes under ground, near the sea shore: they most generally choose the latter situation.

The males perform the office of sitting, relieving their mates when they go to feed. The young are hatched in the beginning of July. When the young ones are excluded, the parents' industry and courage are incredible, and few birds or beasts will venture to attack them in their retreats. When the great sea-raven comes to take away their young, the puffin, relying on the strength of its bill, with which it bites most keenly, boldly opposes the intruder. Their meeting affords a most singular combat. As soon as the raven approaches, the puffin catches him under the throat with its beak, and sticks its claws into his breast, which makes the raven, with a loud screaming, attempt to get away; but the little bird still holds fast to the invader, nor lets him go till they both come to the sea, where they drop down together, and the raven is drowned; yet the raven is but too often successful, by invading the puffin at the bottom of its hole, and so devouring the little bird and its helpless family.

THE SWAN.



So much difference is there between this bird when on land and in the water, that it is hardly to be supposed the same, for in the latter, no bird can possibly exceed it for beauty and grandeur. When it ascends from its favourite element, its motions are awkward, and its neck is stretched forward with an air of stupidity; but when seen smoothly sailing along the water, commanding a thousand graceful attitudes, and moving at pleasure without the smallest effort, there is not a more beautiful figure in all

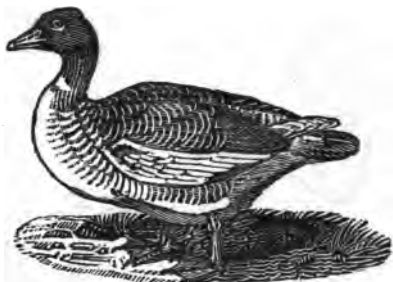
nature. In the exhibition of its form, there are no broken or harsh lines; no constrained or catching motions; but the soundest contours, and the easiest transitions: the eye wanders over every part with insatiable pleasure, and every part takes a new grace with a new motion. It will swim faster than a man can walk.

This bird has long been rendered domestic; and it is now a doubt whether there be any of the tame kind in a state of nature. The colour of the tame swan is entirely white, and it generally weighs full twenty pounds. The windpipe sinks down into the lungs in the ordinary manner: and it is the most silent of all the feathered tribes; it can do nothing more than hiss, which it does on receiving any provocation. In these respects it is very different from the wild, or whistling swan.

This beautiful bird is as delicate in its appetites as elegant in its form: its chief food is corn, bread, herbs growing in the water, and roots and seeds, which are found near the margin. At the time of incubation, it prepares a nest in some retired part of the bank, and chiefly where there is an islet into the stream. This is composed of water-plants, long grass, and sticks; and the male and female assist in forming it with great assiduity. The swan lays seven or eight eggs, one per day; they are white, and much larger than those of a goose, with a hard, and sometimes a tuberos shell. It sits near two months before its young are excluded; which are ash-coloured when they first leave the shell, and for some months after. It is not a little dangerous to approach the old ones, when their little family are feeding round them. Their fears, as well as their pride, seem to take the alarm; and when in danger, the old birds carry off the young ones on their backs.

Swans were formerly held in such great esteem in England, that, by an act of Edward the fourth, none, except the son of the king, were permitted to keep a swan, unless possessed of five marks a year. By a subsequent act, the punishment for taking their eggs was imprisonment for a year and a day, and a fine at the king's will. At present they are but little valued for the delicacy of their flesh; but numbers are still preserved for their beauty. Many may be seen on the Thames, where they are esteemed royal property, and it is accounted felony to steal their eggs.

THE GOOSE.



THE common tame goose is nothing more than the wild goose in a state of domestication. It is sometimes found white, though much more frequently verging to grey; and it is a dispute among men of taste, which should have the preference.

These birds in rural economy, are an object of attention and profit, and are no where kept in such vast quantities as in the fens of Lincolnshire; several persons there having as many as a thousand breeders. They are bred for the sake of their quills and feathers; for which they are stript while alive; once in the year for their quills, and no less than five times for their feathers; the first plucking commences about Lady-day, for both; and the other four between Lady-day and Michaelmas. It is said, that, in general, the birds do not suffer much from this operation; except cold weather sets in, which then kills great numbers of them. The old geese submit quietly to be plucked, but the young ones are very noisy and unruly. The possessors, except in this cruel practice, treat their birds with kindness; lodging them very often even in the same room with themselves.

These geese breed in general only once a year, but if well kept, they sometimes hatch twice in a season. During their sitting, each bird has a space allotted to it, in rows of wicker pens placed one above another; and it is said, that the gozzard, or goose-herd, who has the care of them, drives the whole flock to water twice a day, and bringing them back to their habitations, places every bird in its own nest.

THE GANNET.

THIS bird, which is about the size of a tame goose, is somewhat more than three feet in length, and weighs about seven pounds. The bill is six inches long, straight almost to the point, where it is a little bent, and its edges are irregularly jagged, for the better securing its prey; and about an inch from the base of the upper mandible, is a sharp process, pointing forward. The general colour of the plumage is a dirty white, with a cinereous tinge. Surrounding each eye, there is a naked skin of fine blue: from the corner of the mouth a narrow slip of naked black skin extends to the hind part of the head; and beneath the skin is a pouch, like that of the pelican, capable of containing five or six herrings. The neck is long; the body flat, and very full of feathers: on the crown of the head, and the back part of the neck, is a small buff-coloured space: the quill feathers, and some other parts of the wings, are black; as are also the legs, except a fine pea-green stripe in their front. The tail is wedge-shaped, and consists of twelve sharp-pointed feathers.

These birds, which subsist entirely upon fish, chiefly resort to those uninhabited islands where their food is found in plenty, and men seldom come to disturb them. The islands to the north of Scotland, the Skelig islands, off the coast of Kerry, in Ireland, and those that lie in the North sea of Norway, abound with them. But it is on the Boss Island, in the Frith of Edinburgh, where they are seen in the greatest abundance.

The gannet, is a a bird of passage. In winter it seeks the more southern coasts of Cornwall, hovering over the

shoals of herrings and pilchards that then come down from the northern sea; its first appearance in the northern islands is at the beginning of spring; and it continues to breed till the end of summer: but, in general, its motions are determined by the migrations of the immense shoals of herrings that come pouring down at that season through the British channel, and supply all Europe, as well as this bird, with their spoil. The gannet assiduously attends the shoal in their passage, keeps with them in their whole circuit round our island, and shares with our fishermen this exhaustless banquet. As it is strong of wing, it never comes near the land, but is constant to its prey. Wherever this bird is seen, it is sure to announce to the fishermen the arrival of the finny tribe; they then prepare their nets, and take the herrings by millions at a draught; while the informer comes, though an unbidden guest, and snatches its prey from the fisherman even in his boat. While the fishing season continues, the gannets are busily employed; but when the pilchards disappear from our coasts, they take their leave, to keep them company.

These birds breed but once a year, and lay only one egg, but if that be taken away, they lay another; and if that be also taken away, then a third; but never more for that season. Their eggs are white, and rather less than those of the common goose; and their nest large, composed of such substances as are found floating on the surface of the sea. The young birds, during the first year, differ greatly in colour from the old ones; being of a dusky hue, speckled with numerous triangular white spots.

These birds, when they pass from place to place, unite in small flocks of from five to fifteen; and, except in very fine weather, fly low, near the shore, but never pass over it; doubling the capes and projecting parts, and keeping nearly at an equal distance from the land. During their fishing, they rise high into the air, and sail aloft over the shoals of herrings, or pilchards, much in the manner of kites. When they observe the shoal crowded thick together, they close their wings to their sides, and precipitate themselves head-foremost into the water, dropping almost like a stone. Their eye in this act is so correct, that they never fail to rise with a fish in their mouth.—If, in flying away with one, they see another they like better, they immediately drop the first to regain it.

THE EIDER DUCK.

THE eider duck is about twice the size of the common English duck. Its bill is black and cylindrical; the feathers of the forehead and cheeks advance far into the base. In the male, the feathers of part of the head, the lower part of the breast, the belly, and the tail, are black, as are also the quill feathers of the wings; nearly all the rest of the body is white. The legs are green. The female is of a redish brown, variously marked with black and dusky streaks. It is principally found in the western isles of Scotland, on the coasts of Norway, Iceland, and Greenland, and in many parts of North America, particularly in the Esquimaux islands.

In Iceland, the eider ducks generally build their nests on small islands not far from the shore; and sometimes even near the dwellings of the natives, who treat them with so much attention and kindness, as to render them nearly tame. Sometimes two females will lay their eggs in the same nest, in which case they always agree remarkably well. The female lays from three to five eggs (sometimes as many as eight) which are large, smooth, glossy, and of a pale olive colour: they generally lay among stones or plants, near the sea, but in a soft bed of down, which they pluck from their own breasts.

As long as the female is sitting, the male continues on watch near the shore; but as soon as the young are hatched, he leaves them. The mother, however, remains with them a considerable time afterwards. It is curious to observe her manner of leading them out of the nest, almost as soon as they creep from the eggs. Going before them to the shore, they trip after her; and, when she comes to the water-side, she takes them on her back, and swims a few yards with them, when she dives; and

the young ones are left floating on the surface, obliged to take care of themselves. They are seldom seen afterwards on land.

From these birds is produced the soft down so well known by the name of eider, or edder down, with which they line the inside of their nests, which renders them particularly warm. When the natives come to their nest, they carefully remove the female, and take away the superfluous down and eggs: after this they replace the female: she then begins to lay afresh, and covers her eggs with new down, which she also plucks from her body: when this is scarce, or she has no more left, the male comes to her assistance, and covers the eggs with his down, which is white, and easily distinguished from that of the female. When the young ones leave the nest, which is about an hour after they are hatched, it is once more plundered.—The most eggs and the best down, are got during the first three weeks of their laying; and it has generally been observed, that they lay the greatest number of eggs in rainy weather. One female, during the time of laying; generally gives half a pound of down; which, however, is reduced to one half after it is cleaned.

The Greenlanders kill these birds with darts; pursuing them in their little boats, watching their course by the air bubbles when they dive, and always striking them when they rise to the surface wearied. The flesh is valued as food, and their skins are made into warm and comfortable under garments.

THE DUCK.



THE common duck, of which there are about ten different sorts, is so universally known, as to require no description. It is most easily reared of all our domestic animals.

The very instinct of the young ones directs them to their favourite element, and though they are conducted by a hen, they despise the admonition of their leader. The feet of the tame duck are black.

It is usual to lay duck eggs under a hen, because she hatches them better than the original parent would have done. The duck seems to be a heedless, inattentive mother; she frequently leaves her eggs till they spoil, and even seems to forget she is entrusted with the charge: she is equally regardless of them when excluded; she leads them to the pond, and thinks she has sufficiently provided for her offspring when she has shown them the water: whatever advantages may be procured by coming near the house, or attending in the yard, she declines them all; and often lets the vermin, who haunt the waters, destroy them, rather than take shelter nearer home. The hen is a nurse of a very opposite character; she broods with the utmost assiduity, and generally brings forth a young one from every egg committed to her charge; she leads them about, and when they take to the water, guards them when there, by standing at the brink. Should the rat or the weasel attempt to seize them, the hen instantly gives them protection; she leads them to the house when tired with paddling, and rears up the suppositious brood, without ever suspecting that they belong to another.

THE CRESTED DIVER.



THE crested diver is about the size of a duck; the bill, that part especially towards the head, is of a redish colour, and in length is somewhat more than two inches; on the top of the head and neck, is a beautiful crest of feathers, those on the neck appearing like a collar, or ruff,

and seem a good deal bigger than they really are; those on the top of the head are black, those on the sides of the neck are of a redish or cinerous colour; the back and wings are of a darkish brown, pretty much inclining to black, except some of the exterior edges of the wing feathers, which are white: the breast and belly are of a light ash-colour; it has no tail; the legs and toes broad and flat, much like those before described. It has an unpleasant cry, and will occasionally, when angered or pleased, raise or fall the feathers of its crest.

THE WIDGEON.



THIS bird weighs near a pound and a half; it has a black nail at the end of the upper mandible of the bill, the other part of which is of a lead colour; the structure of the head and mouth very much resemble the common wild duck, only the head does not seem to be quite so large, in proportion to the body, which also appears of a finer shape, and the wings longer. The crown of the head, towards the base of the bill, is of a pale pink colour, inclining to a redish white; the other parts of the head and neck are red; the sides of the body and the upper part of the breast are tinged with a very fair, glossy, and beautiful claret-colour, with a few small transverse lines of black: the feathers on the back are brown; the edges more pale or ash-coloured; the scapular feathers, and those under the fore-part of the wings, are finely variegated with small transverse black and white lines, beautifully dispersed like waves; the quill feathers are some of them brown, with white tips; others have their outward webs of a blackish purple; other parts, especially those beyond the covert feathers, of a lovely fine blue; some of

the exterior feathers have their outward webs inclining to black, with a fine purple gloss upon the borders, on which there are a number of small light coloured spots: the rest of the wing feathers are of a beautiful party-coloured brown and white: the upper part of the tail is ash-coloured; the under part, behind the vent, black: the legs and feet are of a dark lead colour, and the claws black.

Widgeons are common in Cambridgeshire, the Isle of Ely, &c. where the male is called the widgeon, and the female the whewer. They feed upon wild periwinkles, grass, weeds, &c. which grow at the bottom of rivers and lakes. Their flesh has a very delicious taste, not inferior to teal, or wild ducks.

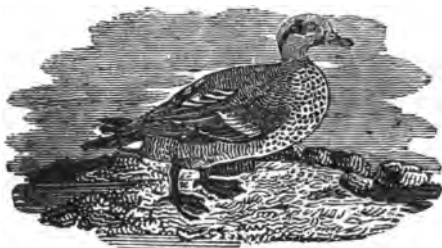
THE SMEW.



THIS bird measures, from the point of the bill to the end of the tail, near eighteen inches; and from the extremity of each wing, when extended, upwards of two feet; and weighs about a pound and a half. It has a fine crest upon the head, which falls down toward the back part of it, under which, on each side of the head, is a black spot: the rest of the head and neck are white, as are the under parts of the body: the back and the wings are of an agreeable mixture of black and white. The tail is about three inches long, of a sort of a dusky ash-colour, the feathers on each side shortening gradually. The bill is of a lead colour, at the extremity of which is a dirty coloured spot of white; it is somewhat less than the generality of the duck kind, a little hooked, with large open nostrils, and darkish coloured eyes: the legs are pretty much of the colour of the bill.

The female of this bird has no crest; the sides of the head are red, the throat white, and the wings of a dusky ash-colour; in other respects it agrees with the male. They feed on fish, but are very rarely seen in England, except in very hard seasons, and then not more than three or four of them together.

THE TEAL.



THIS is the smallest bird of the duck-kind, and does not usually weigh more than twelve or fourteen ounces; its length is about sixteen inches from the point of the bill to the end of the tail, and from the extremity of each wing, when extended, near two feet. The bill is of a dark brown colour; the head is considerably lighter, inclining to a bay, with a large white stripe over each eye, bending downwards towards the back part of the head; the neck, back, and tail, are of a more dusky colour: the breast is of a dirty-coloured yellow, interspersed with dusky transverse lines; the belly more bright, with yellowish brown spots; the quill feathers of the wings are of a dusky brown, with white edges; the covert feathers appear of a fine shining green, with their tips white; the scapular feathers are more inclining to an ash-colour; the legs and feet are brown, the claws black.—These birds feed on water-plants, seeds, and grass.

The Chinese teal of Edwards, and the summer duck of Catesby, are elegant species; the former is a native of China, sometimes brought alive into England, but too tender to be reared in this country. The other inhabits Mexico and some of the West-India islands; and is to be seen here at times in the menageries of the curious.

THE CRANE.

BIRDS of this species may, for the most part, be distinguished by the length of their legs and bills, the latter of which are possessed of great sensibility near the point, and even furnished with nerves, for the better feeling their food at the bottom of marshes, where it cannot be seen. None of them have been taken under the protection of man; but they lead a life of precarious liberty, in fens and marshes, at the edges of lakes, and along the seashore. These cannot, strictly speaking, be called either land birds or water-fowl; as they derive all their sustenance from watery places, and yet are unqualified to seek it in those depths where it is found in the greatest plenty.

The above bird measures about three feet and a quarter in length and three feet in height, with a neck proportioned to the length of its legs. The top of the head is covered with black bristles; and the back of it, which is bald and of a red colour, distinguishes it from the stork, to which it would otherwise bear a very near resemblance. The plumage is generally ash coloured: and from the pinion of each wing, grow two large tufts of feathers finely curled at the ends; which the bird can erect or depress at pleasure.

The arctic regions seem to be the favourite abode of these birds: for although they are found in most parts of

Europe, except Great-Britain, they may be considered as visitants rather than inhabitants; as they migrate from one part to another, and seem to follow the seasons. As they rise but heavily, they are extremely shy, and seldom let the fowler approach them. Their depredations are usually made in the night, when they will enter a field of corn, and trample it down, as if it had been crossed over by a regiment of soldiers: on other occasions they choose some extensive solitary marsh, where they range themselves all day, as if they were in deliberation; and not finding that grain which is most suitable to their appetites, they wade the marshes for insects and other food, which they can procure with less difficulty and danger.—The female lays two eggs, about the size of those of a goose, but of a blueish colour. The young ones may be easily domesticated, which experience has proved.

THE GIGANTIC CRANE.



THIS bird is much larger than the former; measuring from tip to tip of the wings, nearly fifteen feet. The bill is of a vast size, nearly triangular, and sixteen inches round at the base: the head and neck are naked, except a few straggling curled hairs. The feathers of the back and wings are of a blueish ash colour, and very stout;

those of the breast are long. The craw hangs down the fore part of the neck like a pouch. The belly is covered with a dirty white down; and the upper part of the back and shoulders are surrounded with the same. The legs and half the thighs are naked; and the naked parts are full three feet in length.

This bird is an inhabitant of Bengal and Calcutta, and is sometimes found on the coast of Guinea. It arrives in the internal parts of Bengal before the period of the rains, and retires as soon as the dry season commences. Its aspect is filthy and disgusting, yet it is one of the most useful birds of those countries, in clearing them of snakes and noxious reptiles and insects. It seems to finish the work begun by the jackall and vulture: they clearing away the flesh of animals, and these birds removing the bones, by swallowing them entire. They sometimes feed on fish: and one of them will generally devour as much as would serve four men.

Gigantic cranes are found in companies; and when seen at a distance, near the mouths of rivers, coming towards an observer (which they do with their wings extended) it is said that they may easily be mistaken for canoes on the surface of a smooth sea; and when on the sand-banks, for men and women picking up shell-fish on the beach.

THE STORK.



OF this bird we shall confine ourselves to the most remarkable species, which is the white stork, the length of

which is about three feet. The bill is nearly eight inches long, and of a fine red colour: the plumage is wholly white; except the orbits of the eyes, which are bare and blackish; some of the feathers on the side of the back, and on the wings, are black: the skin, the legs, and the bare parts of the thighs, are red.

The white stork is semi-domestic; haunting towns and cities, and in many places stalking unconcernedly about the streets, in search of offal and other food. They remove noxious filth, and clear the fields of serpents and reptiles. On this account they are protected in Holland, and held in high veneration by the Mahometans; and so greatly were they respected in times of old by the Thessalonians, that to kill one of these birds, was a crime expiable only by death.

The disposition of this bird is mild, neither shy nor savage; it is easily tamed, and may be trained to reside in gardens, which it will clear of insects and reptiles. It has a grave air, and a mournful visage: yet, when roused by example, it shews a certain degree of gaiety; for it joins the frolics of children by imitating them.

Storks are birds of passage, and observe great exactness in the time of their autumnal departure from Europe to more favourite climates. They are seldom seen farther north than Sweden: and though they have scarcely ever been met with in England, they are so common in Holland, as to build every where on the tops of the houses, where the good-natured inhabitants provide boxes for them to make their nests in; and are careful that the birds suffer no injury, always resenting this as an offence committed against themselves. Storks are also common at Aleppo, and in plenty at Seville, in Spain. At Bagdad, hundreds are said to be seen about the houses, walls, and trees; and at Persepolis, or Chilmaner, in Persia, the remains of the pillars serve them to build on, every pillar having a nest on it.

This bird bestows much time and care on the education of its young, and does not leave them till they have sufficient strength for defence and support. When they begin to flutter out of the nest, the mother bears them on her wings; she protects them from danger, and will sometimes perish rather than forsake them.

In autumn they retire into Egypt, and the marshes of Barbary, where they enjoy a second summer, and bring up a second brood.

THE HERON.

THIS bird is remarkably light in proportion to its bulk; seldom weighing more than three pounds and a half, although it expands a breadth of wing not less than five feet. Its bill is five inches, from the base to the point; and its claws are long, sharp, and formidable: but though it appears thus completely armed for war, it is indolent and cowardly, and even flies at the approach of a sparrow-hawk. In fresh water, however, it is a perfect tyrant, and there is scarcely a fish, however large, that it will not strike at and wound, though unable to carry it away: but it subsists chiefly on the smaller fry, of which it devours immense quantities.

These birds live chiefly among pools and marshes, and commit their depredations in solitude and silence; yet in making their nest, they are seen, like rooks, building in company with flocks of their own kind. Their nests are made of sticks, and lined with wool; and the female lays four large eggs of a pale green colour. When the young are excluded, as they are numerous, voracious, and importunate; the parents are for ever on the wing, to satisfy their cravings: and the quantity of fish they take upon this occasion is truly surprising.

This bird, though it usually takes its prey by wading into the water, frequently also catches it while on the wing; but this is only in shallow waters, where it is able to dart with more certainty than in the deep; for in this case, though the fish does, at the first sight of its enemy, descend, yet the heron, with its long bill and legs, instantly pins it to the bottom, and thus seizes it securely.

THE BITTERN.



It is impossible for words to convey an adequate idea of the terrific solemnity of the bittern's evening call, which resembles the interrupted bellowings of a bull, but is louder, and may be heard at a greater distance; the bird, however, from whence it proceeds, is less than the heron, and neither so voracious nor destructive. Its plumage is of a pale yellow colour, spotted and barred with black, and its flesh is esteemed a great dainty.

The bittern is naturally a timid and inoffensive bird, concealing itself by day in the midst of reeds and marshy places, and subsisting upon frogs, insects, and vegetables; at the latter end of autumn, however, in the evening, its usual indolence seems to forsake it, and it is then seen rising in a spiral ascent till it is quite lost from the view, making at the same time a singular noise, very different from its former boomings.—The female composes a simple nest of sedges, the leaves of water plants, and dry rushes; and generally lays seven or eight eggs, of an ash-green colour.

When wounded by the sportsman, this bird often makes a severe resistance: it does not retire; but waits the onset, and gives such vigorous pushes with its bill, as to wound the leg through the boot. Sometimes it turns

its back, like the rapacious birds, and fights both with its bill and claws. When surprised by a dog, it is said always to throw itself in this posture, and defend itself so vigorous, as to compel its antagonist to retire.

THE FLAMINGO.



THE flamingo is the tallest, largest, and most beautiful bird of the crane kind. The body, which is of a bright scarlet, is about the size of that of a large swan; the wings extended are five feet six inches from tip to tip; and the neck is nearly three feet long. The head is round and small, and furnished with a long bill, partly red and partly black. The legs and thighs are remarkably slender, and the toes are united by membranes, like those of a goose, though the animal has never been seen in the act of swimming.

When seen in the day-time, these birds always appear drawn up in a long close line of two or three hundred together; and present, at the distance of half a mile, the exact representation of a long brick wall. When they break their ranks to search for food, one of them is always employed as a centinel, who sounds an alarm on the remotest appearance of danger.

The female builds her nest in extensive marshes, where there is no danger of surprise; and the fabric is not less

curious than the bird that erects it. It is raised about eighteen inches above the surface of the pool, and is formed of mud, scraped together and hardened in the sun; its shape resembles that of a common chimney-pot; the upper part is hollowed out to the shape of the bird; and in that cavity she lays her eggs, which never exceed two in number. The young ones are for a long time incapable of flying, but they are said to run with amazing celerity. They may be easily domesticated; but generally pine away for want of their natural supplies.

THE CUSHEW BIRD.



THIS bird's natural size is nearly that of a hen-turkey; and it has its name from the knob over its bill, which in shape greatly resembles the cushew-nut of America. It is a native of the torrid zone, and found in Jamaica, and other islands of America. It feeds, like the turkey, on grain, insects, and the like.

The knob over the bill is of a fine blue colour, as is also the basis of the upper mandible of the bill; the remainder of the bill is red: the eyes have reddish-brown irides: the whole bird is of a shining blackish colour, reflecting purple glosses; except the lower part of the belly, the covert feathers, under the tail, and the tips of the tail feathers, which are white: the legs and feet are covered with a scaly skin, of a bright flesh-colour.

THE SPOONBILL.

THE spoonbill, or shoveller, is about the size of the crane, but not quite so tall. The common colour of those of Europe is a dirty white, but in America they are seen of a beautiful rose colour on a delightful crimson.—Beauty of plumage seems to be the prerogative of all the birds of that continent; and we here see the most splendid tints bestowed on an animal whose figure is sufficient to destroy the effects of its colouring; for its bill is so oddly fashioned, and its eye so stupidly staring, that its plumage only tends to add splendor to deformity.

The spoonbill chiefly subsists on frogs, toads, and serpents, of which it destroys great numbers; and it is for that reason highly esteemed by the inhabitants of the Cape of Good Hope. The female lays from three to five eggs; and, in Europe, its nest is usually found in high trees, near to that of the heron, and constructed of the same materials. The inhabitants who claim the trees they build in, furnish themselves with a long pole, hooked at the end, with which they shake out the young ones; but sometimes the nest and all tumble down together.

On the hind part of the head of this bird is a beautiful white crest, reclining backwards; while the legs and thighs are jet black; but the wisdom of Providence is conspicuous in the conformation of the bill, which seems entirely adapted to the habits and manner of feeding of these birds: the frog and the lizard, which constitute the principal food of the spoonbill, do often escape the thin and narrow beak of the heron and others, but here the mandibles are so large at the end, that the prey cannot slip aside.

THE DOTTEREL.

THE length of this bird is about nine inches. Its bill is black; the cheeks and throat are white; the back and wings are of a light brown, inclining to olive; the breast is of a pale dull orange; the belly, thighs, and vent, are of a redish white; the tail is an olive brown, and tipped with white: the legs are of a dark olive colour.

The dotterel is common in various parts of Great-Britain, though in some places it is scarcely known. They are supposed to breed in the mountains of Cumberland and Westmoreland, where they are sometimes seen in the month of May, during the breeding season; they likewise breed on several of the Highland hills: they are very common in Cambridgeshire, Lincolnshire, and Derbyshire, appearing in small flocks on the heaths and moors of those counties during the months of May and June, and are then very fat, and much esteemed for the table.

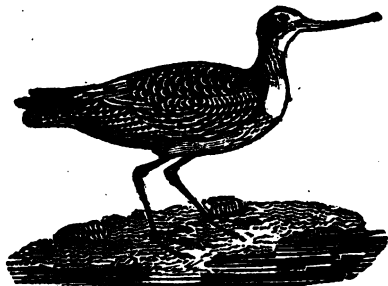
THE AVOSETTA.

THE avosetta is about the size of a pigeon, and has extremely long legs; but the most extraordinary part of its figure is the bill, which turns up like a hook, in an opposite direction to that of the hawk or the parrot; this is of a black colour, flat, sharp, and flexible at the end.

These birds commonly breed in the fens of Lincolnshire, and of Romney Marsh, in Kent. In winter they

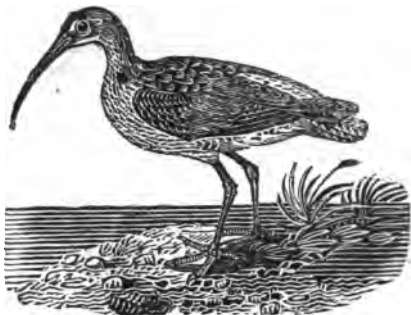
assemble in flocks of six or seven, about the mouths of large muddy rivers, in search of worms and insects, which they scoop out of the mud with their recurved bills. Their feet seem calculated for swimming; but, as they are never observed to take to the water, it is probable that they are furnished with a web merely to prevent their sinking in the mud. The female lays two eggs, of a white colour, tinged with green, and marked with black spots.

THE GODWIT.



THE godwit is about sixteen inches in length; the bill is nearly as long as that of the woodcock, of a palish red towards the base, and black at the point; the upper mandible something longer than the lower: the tongue is sharp; the ears open, and large. The feathers upon the head are a light brown or redish colour, with their middle parts black, but about the eyes of a more pale or yellowish tint; the neck and breast are pretty much of the same colour with the head, only interspersed with transversed black lines, edged with a pale yellow. The tail feathers are alternately crossed with black and white lines. The legs are of a dusky greenish colour, and the claws are black.

They feed by the sea-side upon sandy shores; like the gull. The throat and neck of the hen is grey, and the rump white, speckled or powdered with blackish spots. They are in some places called the stone plover.

THE CURLEW.

THERE are eleven species of this bird, differing very much in size, the longest measuring about twenty-five inches, and sometimes weighing thirty-six ounces. These birds fly in considerable flocks, and are well known upon the sea-coast in most parts, where, and in the marshes they frequent in winter, they feed on worms, frogs, and all kinds of marine insects. In April, or the beginning of May, they retire into mountainous and unfrequented parts of the sea shore, where they breed, and do not return again until the approach of winter. There have been some advocates in favour of the flesh of this bird, but, in general, it is strong and fishy. It has a long black bill, much curved or arched, about eight fingers long, and beginning to bend a little downwards about three fingers from the head: the middle parts of the feathers on the head, neck, and back, are black; the borders or outsides ash-coloured, with an intermixture of red; and those between the wings and back are of a most beautiful glossy blue, and shine like silk: the vent and belly are white. The feet are divided, but joined by a little membrane at the root. The tongue is very short, considering the length of the bill, and bears some resemblance to an arrow.

The female is somewhat larger than the male, which is commonly called the jack curlew; and the spots with which her body is covered almost all over, are more inclining to a red.

THE SNIPE.

THIS bird measures, from the point of the bill to the end of the tail, about twelve inches; and from the point of each wing, when extended, about fifteen or sixteen; the head is divided by a pale red line, which runs longways, parallel to which on each side is a black line; and over the eyes there runs another line, pretty much of the same colour as that on the middle of the head; it has a white place under the bill. The feathers that spring from the shoulders are so long, that they reach almost as far as the end of the tail, the outward half from the shaft being of a pale red. The colours thus succeeding each other, make two lines down the back; the covert feathers of which are dusky, with white transverse lines, and white tips on some of the large wing feathers; the lesser feathers being of a mixed colour of red, black, and grey, beautifully variegated with white and brown lines running across them. The bill is black at the tip, and near three inches long; the tongue is sharp; the eyes of a hazel colour; the legs are of a pale greenish colour; the toes pretty long; and the talons black.

There are two sorts; but they frequent the same places, subsist on the same food, and are frequently found near to each other. The larger is called the whole snipe, and the smaller the jack.

The flesh is exceedingly good, sweet, and tender; it feeds in drains of water-springs, and other fenny places, on worms and other insects, and upon the fat unctuous humour that it sucks out of the earth.

Snipes are birds of passage, supposed to breed principally in the lower lands of Switzerland and Germany;

though some (particularly the jacks) remain and breed in the fens, and marshy swamps of this country, where their nests and eggs are frequently found. They lay four or five eggs. They arrive here sooner or later in the autumn, regulated in respect to time, by the wind and weather; but never appear till after the first rains, and leave this country in spring, as soon as the warmer sun begins to absorb or exhale the moisture from the earth, and denote the approach of summer.

THE WOODCOCK.



THIS bird is about as large as a pigeon, with a bill three inches long, straight, and furried the whole length. The crown of the head, and back of the neck, are barred with black, and a black streak runs from the bill to the eyes. The woodcock flaps its wings with some noise when it rises, and its flight is pretty rapid, but neither high nor long; and its descent is so sudden that it seems to fall like a stone. It flies very straight in a wood of tall trees, but in a copse it is often obliged to wind, and frequently drops behind bushes, to conceal itself from the eye of the fowler. It principally feeds on worms and insects, which it draws out of the mud with its long bill; and its flesh is universally-admired. The female builds an artless nest on the ground, and generally lays four or five eggs.

The greater part of the woodcocks leave this country about the latter end of February, or the beginning of March, always pairing before they set out: they retire to the coast; and, if the wind be fair, set out immediately; but if contrary, they are often detained in the neighbouring woods and thickets for some time. In this crisis, the

sportsmen are alert, and the whole surrounding country echoes the discharge of guns; seventeen brace have been killed by one person in a day. But if they are detained long on the dry heaths, they become so lean as to be scarcely eatable. The instant a fair wind springs up, they seize the opportunity; and where the sportsman has seen hundreds in one day, he will not find even a single bird the next.

THE LAPWING, OR PEE-WIT.



THIS bird is about the size of a common pigeon, and is covered with very thick plumes, which are black at the roots, but of a different colour on the outward part. The feathers on the belly, thighs, and under the wings, are most of them white as snow; and the under part on the outside of the wings white, but black lower. It has a great liver, divided into two parts; and, as some authors affirm, no gall.

Lapwings are found in most parts of Europe, as far northward as Iceland. In the winter they are met with in Persia and Egypt. Their chief food is worms; and sometimes they may be seen in flocks nearly covering the low marshy grounds in search of these, which they draw with great dexterity from their holes.—When the bird meets with one of those little clusters of pellets, or rolls of earth, that are thrown out by the worm's perforations, it first gently removes the mould from the mouth of the hole, then strikes the ground at the side with its foot, and steadily and attentively waits the issue; the reptile, alarmed by the shock, emerges from its retreat, and is instantly seized.

These birds make a great noise with their wings in flying, and are called pee-wits in the north of England, from their particular cry. They remain here the whole year. The female lays two eggs on the dry-ground, near some marsh; upon a little bed which she prepares of dry grass; these are olive-coloured, and spotted with black. She sits about three weeks; and the young, who are covered with a thick down, are able to run within two or three days after they are hatched.

THE LONG-LEGGED PLOVER.



THIS bird is of the plover family, and might with propriety be called the stilt plover. It weighs about four ounces. The naked part of the thighs measure three inches and a half, and the legs about four inches and a half. Hence we may easily assert, that these birds exhibit weight for inches, and have incomparably the greatest length of legs of any known bird. The flamingo, for instance, is one of the most long-legged birds, and yet it bears no manner of proportion to the himantopus, or loripes, which is the name most naturalists give this bird.

It must be a matter of great curiosity to see the stilt plover move; to observe how it can wield such a length of lever with such feeble muscles as the thighs seem to be furnished with: at best, one should expect it to be but a bad walker; but what adds to the wonder is, that it has no back toe: now, without that steady prop to support its steps, it must be liable to perpetual vacillations, and seldom able to preserve the true centre of gravity.

These long-legged plovers are birds of South Europe, and rarely visit our island; and when they do, are wan-

derers and stragglers, and impelled to make so distant and northern an excursion from motives or accidents for which we are not able to account.

This bird is common in Egypt and the warmer parts of America, where it feeds on flies and other insects.

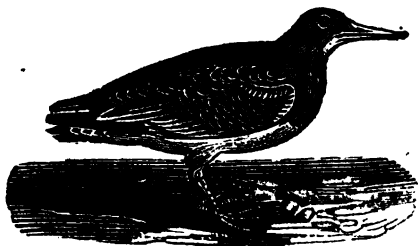
THE GREEN PLOVER.

THIS bird is much about the same size as the lapwing, and has a short, round, black bill, sharp at the end, and a little hooked. The tongue, which fills all the inner chap of the bill, is triangular at the tip, horny underneath, and turns a little up: the feathers of the back and wings are black, thick set with transverse spots of a yellowish green colour; the breast is brown, spotted with yellowish green; the belly is white; and, like the stilt-plover, it has no hind claw, or spur.

These birds are found in France, Switzerland, Italy, and in most counties of England; in all which places they are esteemed a choice dish, their flesh being very tender, and of an exceedingly agreeable flavour. They feed chiefly upon worms; though some authors have affirmed that they live, like the grasshopper, upon nothing but dew.

This bird was called *paradalis* by the ancients, from its beautiful spots, which somewhat resemble those of the leopard.

THE KNOT.



THIS bird measures not more than nine inches, and weighs only four ounces and a half. The head and neck are ash-coloured; the back and scapulars brown, with a white bar

on the wings. They frequent the coast of Lincolnshire from August to November; and when fattened, are preferred by some to the ruffs themselves.

THE RUFF.



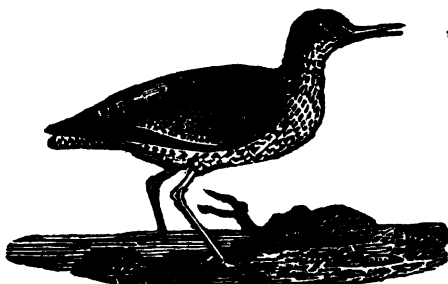
THE ruff is about a foot in length, with a bill of about an inch: the face is covered with yellow pimples; and the back part of the head and neck are furnished with long feathers, standing out somewhat like the ruff worn by our ancestors; a few of the feathers stand up over each eye, and appear not unlike ears. The colours of the ruffs are in no two birds alike; in general they are brownish, and barred with black; though some have been seen that were altogether white: the lower parts of the belly, and the tail coverts, are white: the tail is tolerably long, having the four middle feathers barred with black; the others are pale brown; the legs are of a dull yellow; and the claws black. The female, which is called the reeve, is smaller than the male, of a brown colour, and destitute of the ruff on the neck.

The ruffs are much more numerous than the reeves, and they have many severe contentions for their mates. The male chooses a stand on some dry bank, near a splash of water, round which he runs so often as to make a bare circular path: the moment a female comes in sight, all the males within a certain distance commence a general battle; placing their bills to the ground, spreading their ruffs, and using the same action as a cock; this opportunity is seized by the fowlers, who, in the confusion,

catch them, by means of nets, in great numbers; yet even in captivity, their animosity still continues.

The reeves lay four eggs, in a tuft of grass, about the beginning of May; and the young are hatched in about a month.

THE REDSHANK.



THIS bird weighs about five ounces and a half, and is twelve inches long. The bill is two inches, red at the base, and black towards the point: the head, neck, and scapulars, are of a dusky ash colour, obscurely spotted with black: the back is white, spotted with black; the breast is white, streaked with dusky lines. When its nest is in danger, it makes a noise somewhat similar to that of the lapwing.

The greenshank is a bird of the same kind as the former, but about two inches longer; its habits, disposition, modes of subsistence, and colour, the same; with the exception of its legs, which are green, from which circumstance it is named.—They both feed by the sea-shores, and sides of large rivers.

THE SANDPIPER.

THERE are at least forty varieties of this genus; among which, besides the two preceding, are the puno, and the turnstone.

The sandpiper is a small bird, seldom exceeding the size of a thrush, at least in England, and some of them

are not bigger than a sparrow. In the milder climates there are larger species, such as the green, the spotted, the red, and the gambol pipers, many of which have been seen as large as pigeons.

The sandpiper of England weighs about two ounces; it has a brown head, streaked with a glossy green; and the breast and belly are quite white: the bill is straight and slender, about an inch and a half long; the nostrils small; and the tongue slender. The toes are divided, or slightly connected at the base, by a membrane: the hinder toe is short and weak.

The whole of this tribe have a shrill pipe, or whistle, from which they derive their name, and which they constantly make use of.

THE WATER-HEN.

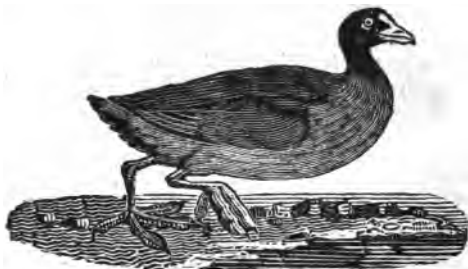


THIS race is considered by naturalists as the tribe which unites the web-footed kind with those of the crane species; for although they have long legs and necks, like the latter, yet by being furnished with a slight membrane between their toes, they are enabled to swim like the former; the principal of them are the water-hen, or gallinule, and the coots; these, though placed in different classes, by those who are fond of nice distinctions, may be said perfectly to resemble each other in figure, feathers, and habits; they both have long legs, with thighs almost bare of hair or feathers: their necks are rather long in proportion; their wings short, as are their bills, which are very weak; their general colour black, and their foreheads bald and without feathers. Such are their similarities; and their slight differences are first in size, the water-hen weighing but fifteen ounces, and the coot twenty-

four. The bald part of the forehead in the coot is black; in the water-hen it is of a pink colour. The toes of the water-hen are edged with a straight membrane; those of the coot have it scolloped and broader. In shape and figure their differences are very trifling, and, if possible, their manner of living still less; therefore the history of one will serve for both; yet we shall introduce an engraving of each.

As birds of the crane kind are furnished with long wings, and easily change place, the water-hen, whose wings are short, is obliged to reside entirely near those places where her food lies; she cannot take those journeys that most of the crane kind are seen to perform; compelled by her natural imperfections, as well perhaps as by inclination, she never leaves the side of the pond or the river in which she seeks her provision. She builds her nest upon low trees and shrubs, of sticks and fibres, by the water-side: her eggs are sharp at one end, and white, with a tincture of green, spotted with red. She lays twice or thrice in a summer; her young ones swim the moment they leave the egg, pursue their parent, and imitate all her manners. She rears, in this manner, two or three broods in a season; and when the young are grown up, she drives them off to shift for themselves.

THE COOT.



As the coot is a large bird, it is always seen in larger streams, and more remote from mankind. The water-hen seems to prefer inhabited situations; she keeps near ponds, moats, and pools of water near gentlemen's houses; but the coot keeps in rivers, and among rushy margined lakes; it there makes a nest of such weeds as the stream sup-

plies, and lays them among the reeds, floating on the surface, and rising and falling with the water: the reeds among which it is built keep it fast, so that it is seldom washed into the middle of the stream. But if this happens, which is sometimes the case, the bird sits in her nest, like a mariner in his boat, and steers with her legs her cargo into the nearest harbour; there, having attained her port, she continues to sit in great tranquillity, regardless of the force of the current; and though the water penetrates her nest, she hatches her eggs in that wet condition.

The water-hen never wanders; but the coot sometimes swims down the current, till it even reaches the sea. In this voyage these birds encounter a thousand dangers; as they cannot fly far, they are hunted by dogs and men; as they never leave the stream, they are attacked and destroyed by otters: they are preyed upon by kites and falcons; and they are taken in still greater numbers, in weirs made for catching fish.

THE WATER-OUZEL.



THE water-ouzel, called also the water-rail, is in size somewhat less than the blackbird. Its bill is black, and almost straight; the eye-lids are white; the upper parts of the head and neck are of a deep brown; and the rest of the upper parts, the belly, vent, and tail, are black; the chin, the fore part of the neck, and breast, are white or yellowish: the legs are black.

This bird frequents the banks of springs or brooks, which it never leaves; preferring the limpid stream whose fall is rapid, and whose bed is broken with stones and

fragments of rocks. The habits of the water-ouzel are very singular. Aquatic birds, with palmated feet, swim or dive; those which inhabit the shores, without wetting their bodies, wade with their tall legs; but the water-ouzel walks quite into the flood, following the declivity of the ground. It is observed to enter by degrees, till the water reaches its neck; and still advances, holding its head not higher than usual, though completely immersed. It continues to walk under the water; and even descends to the bottom, where it saunters as on dry land.

These birds are found in many parts of Europe. The female makes her nest on the ground, in some mossy bank near the water, of hay and dried fibres, lining it with dry oak-leaves, and forming to it a portico or entrance of moss. The eggs are five in number; white, tinged with a fine blush of red. It will sometimes pick up insects at the edge of the water. When disturbed, it usually flirts up its tail, and makes a chirping noise. Its song in spring is said to be very pretty. In some places it is supposed to be migratory.



NATURAL HISTORY

OF

FISHES.



REMARKS ON FISHES IN GENERAL.

IT has been proved from experience, that the very depths of the immense ocean contain myriads of creatures, to whose very forms we are almost strangers, and of whose dispositions and manners we are still more ignorant. In their construction, however, modes of life, and general design, these creatures are as truly wonderful as the inhabitants of either the land or air.

The structure of fishes, and their conformation to the element in which they are to live, are eminent proofs of divine wisdom. Most of them have the same external form, sharp at each end, and swelling in the middle; by which configuration, they are enabled to traverse the watery element with greater ease and swiftness. From their shape, men have taken the idea of those vessels which are intended to sail with the greatest speed; but the progress of the swiftest sailing ship, with the advantage of a favourable wind, is far inferior to that of a fish. Ten or twelve miles an hour is no small degree of rapidity in the sailing of a ship; yet any of the larger species of the watery tribe would soon overtake her, play round as if she did not move, and even advance considerably before her.

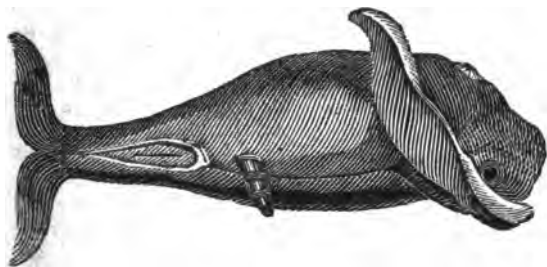
The fins of fishes are denominated from their situations. The pectoral fins are placed at a little distance behind the opening of the gills, and are large and strong, and serve as well to balance the body as to assist the motion of the fish; the ventral fins are placed towards the lower part of the body, under the belly, and serve chiefly to raise or depress the fish in the water; the dorsal fins are situated

on the ridge of the back, and are very large in flat fish: their use, like the pectoral ones, is to keep the body in equilibrio, as well as to contribute to its progressive motion; the anal fins are placed between the vent and the tail, and enabling the fish to keep an upright position.

The aquatic race of beings have, in general, been placed in a very inferior scale of importance, on the score of animal faculties; yet natural and experimental observations have proved that they are possessed of all the necessary organs of seeing, hearing, smelling, and feeling, in an equal degree to either quadrupeds or birds.

Voracity is the chief characteristic of aquatic animals. Those with the largest mouths pursue almost every thing that hath life; and often meeting each other in fierce opposition, the fish with the largest swallow comes off victorious, and devours its antagonist. As a counterbalance, however to this great voracity, fish are incredibly prolific. Some bring forth their young alive, others produce only eggs; the former are rather the least fruitful; yet even those produce in great abundance. The viviparous blenny, for instance, brings forth two or three hundred at a time. Those which produce eggs, which they are obliged to leave to chance, either on the bottom where the water is shallow, or floating on the surface where it is deeper, are all much more prolific, and seem to proportion their stock to the danger there is of consumption. Naturalists declare, that the cod spawns above nine millions in a season. The flounder commonly produces about one million, and the mackerel about five hundred thousand. Scarce one in a hundred of these eggs, however, brings forth an animal: they are devoured by all the lesser fry that frequent the shores, by water-fowl in shallow waters, and by the larger fish in deep waters. Such a prodigious increase, if permitted to come to maturity, would overstock nature; even the ocean itself would not be able to contain, much less provide for, one half of its inhabitants. But two wise purposes are answered by their amazing increase; it preserves the species in the midst of numberless enemies, and serves to furnish the rest with a sustenance adapted to their nature.

Fish, like the land animals, are either solitary or gregarious. Some, as trout, salmon, &c. migrate to deposit their spawn. Of the sea-fish, the cod, herring, &c. assemble in immense shoals, and migrate in these shoals through vast tracks of the ocean.

THE WHALE.

THE whale is one of the cataceous order of fish, and produces its young alive; and the ancients have described it as being six hundred feet in length: at present it is only found in the northern seas ninety feet in length, and twenty in breadth; but formerly they were taken of a much greater size, when the captures were less frequent, and the fish had time to grow. Such is their bulk within the arctic circle; but in the torrid zone, many are seen a hundred and sixty feet long. There are many turnings and windings in this fish's nostrils, and it has no fin on the back: the head is very much disproportioned to the size of the body, being one third the size of the fish; and the under lip is much broader than the upper: the tongue is composed of a soft spongy fat, capable of yielding five or six barrels of oil; and the gullet is very small for so vast a fish, not exceeding four inches in width.

This fish varies in colour; the back of some being red, the belly generally white: others are black; some mottled; and others quite white. Their colours in the water are extremely beautiful, and their skin is very smooth and slippery. Every species of the whale propagates only with those of its kind, and does not at all mingle with the rest: however, they are generally seen in shoals, of different kinds together, and make their migrations in large companies from one ocean to another.

Whales are chiefly taken in the northern seas. The English send out with every ship six or seven boats; each of these has one harpooner, one man at the rudder, one manager of the line, and four seamen to row it. In each

boat, there are also three or four harpoons, several lances, and six lines, each one hundred and twenty fathoms long, fastened together.

As soon as the whale is struck with the harpoon, it darts into the deep, carrying the instrument off in its body; and so rapid is its motion, that if the line was to entangle, it would either snap like a thread, or upset the boat; one man therefore is stationed to attend only to the line, that it may go regularly out, and another is also employed in continually wetting the place it runs against, that the wood may not take fire from the friction. On the whale's return to breathe, the harpooner inflicts a fresh wound, till at length, fainting from loss of blood, the men venture the boat quite up to it, and a long steeled lance is thrust into its breast and other parts, which soon puts an end to its existence.

When the carcase begins to float, holes are cut in the fins and tail, and ropes being fastened into these, it is towed to the ship, where it is fastened along the larboard side, floating with its back under water.

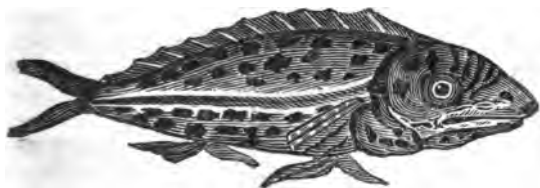
In order to take out the blubber and whalebone, several men now get upon the animal with iron calkers, or spurs, to prevent their slipping, and separate the tail, which is hoisted on deck; they then cut out square pieces of blubber, weighing two or three thousand pounds each, which, by means of the capstan, are also hoisted up; these are cut into smaller pieces, which are thrown into the hold, and left for three or four days to drain. When all the blubber is cut from the belly of the fish, it is turned on one side, by means of a piece of blubber left in the middle, called the cant, or turning piece: they then cut out this side in large pieces as before, and also the whalebone, with the gums, which are preserved entire, and hoisted on deck, where the blades are cut and separated, and left till the men have time to scrape and clean them. The whale is next turned with its back upwards, and the blubber cut out from the back and crown bone: they conclude the whole by cutting the blubber from the other side. Before, however, the remainder of the body is left to float away, they cut out the two large upper jaw-bones, which are hoisted on deck, cleansed, and fastened to the shrouds, and tubs are placed under them to receive the oil which they discharge; which oil belongs to the captain.

In three or four days they hoist the pieces of blubber out of the hold, chop and put them by in small pieces through the bung-holes into the casks.

A whale, the longest blade of whose mouth measures nine or ten feet, will yield about thirty butts of blubber; but some of the largest will yield upwards of seventy. One of the latter is generally worth about one thousand pounds sterling; and a full ship of about three hundred tons burden, will produce more than five thousand pounds from one voyage.

The whale-fishery begins in May, and continues through the months of June and July; but whether the ships have had good or bad success, they must come away and get clear of the ice by the end of August; so that in the month of September, at farthest, they may be expected home; but the more fortunate ships often return in June or July.

THE DOLPHIN.



THE dolphin has an almost straight shape, the back being very slightly incurvated, and the body slender; the nose is long, narrow, and pointed, with a broad transverse band, or projection of the skin on its upper part. It has twenty-one teeth in the upper, and nineteen in the lower jaw, somewhat above an inch long, conic at the upper end, sharp pointed, and bending a little in; they are placed at a small distance from each other; so that, when the mouth is shut, the teeth of both jaws lock into each other. The spout-hole is placed in the middle of the head; the tail is semi-lunar; the skin is smooth; the colour of the back and sides dusky; the belly whitish. It swims with great swiftness, and preys on fish. The dolphin is larger and more slender than the porpus, measuring nine or ten feet in length, and two in diameter.

All this species have fins on the back ; very large heads, like the rest of the whale kind; and resemble each other in their appetites, their manners, and conformation, being equally voracious, active, and roving. No fish could escape them, but from the awkward position of their mouth, which is placed in a manner under the head; and their own agility is so great as to prevent them from being often taken. They seldom remain a moment above water, though their too eager pursuit after prey sometimes exposes them to danger.

A shoal of dolphins will frequently attend the course of a ship for the scraps that are thrown overboard, or the barnacles adhering to their sides. They inhabit the European and Pacific oceans.

The flesh, though tolerably well tasted, is dry and insipid; the best parts are near the head. It is seldom eaten but when young and tender. Dolphins are said to change their colour before they die, and again after they are dead.

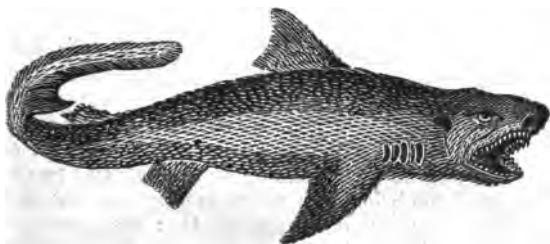
THE PORPUS.



THE general form of the porpus very much resembles that of the dolphin. It is however somewhat less in size, and has a snout much broader and shorter. It is generally from six to seven feet in length; its body is thick towards the head, but grows slender towards the tail, forming the figure of a cone. In each jaw are forty-eight teeth, small, sharp-pointed, and moveable; and so placed that the teeth of one jaw lock into those of the other. The eyes are small, as is the spout-hole at the top of the head. The back is in colour black, and the belly whitish, but they sometimes vary.—Porpuses are very numerous in all the British seas, but more particularly in the river St. Lawrence, in America; where there is a white kind.

These animals live chiefly on the smaller fish; at the season when mackerel, herrings, pilchards, and salmon, appear, the porpus swarms; and, such is its violence in pursuit of its prey, that it will follow a shoal of small fish up a fresh water river, from whence it finds a difficulty to return. These creatures have been often taken in the river Thames, both above and below London-bridge; and it is curious to observe with what dexterity they avoid their pursuers, and how momentarily they recover their breath above the water. It is usual to spread four or five boats over the part of the river where they are seen, and to fire at them the instant they rise. One porpus yields about a hogshead of oil, and therefore renders its capture an object of consideration.

THE WHITE SHARK.



THE white shark has six rows of teeth, hard, sharply pointed, and of a wedge-like figure; these it has the power of erecting and depressing at pleasure: when at rest, they are quite flat in his mouth; but when its prey is to be seized, they are instantly erected by a set of muscles that join them in the jaw: thus, with open jaws, goggling eyes, and large and bristly fins, agitated like the mane of a lion, his whole aspect is an emphatical picture of the fiercest, deepest, and most savage malignity. These creatures are the dread of sailors in all the hot climates, where they constantly attend the ships, in expectation of what may drop overboard; and if, in this case, any of the men have that misfortune, they must inevitably perish.

In the pearl fisheries of South America, every negro, to defend himself against these animals, carries with him

into the water, a sharp knife; which, if the fish offers to assault him, he endeavours to strike into its belly; on which it generally swims off. The officers who are in the vessels keep a watchful eye on these voracious creatures; and, when they observe them approach, shake the ropes fastened to the negroes, to put them on their guard. Many of them, when the divers have been in danger, have thrown themselves into the water, with knives in their hands, and hastened to their defence: but too often all their dexterity and precaution have been of no avail.

THE STURGEON.

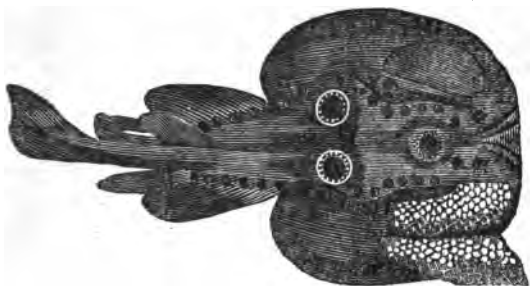


THOUGH this large and fine tasted fish is of a form terrible to view, it is perfectly harmless; the body, which is from six to eighteen feet in length, is pentagonal, and armed from head to tail with five rows of large bony tubercles, each of which ends in a strong recurved tip; one of these is on the back, one on each side, and two on the margin of the belly: the snout is long and obtuse at the end, and has the tendrils near the tip: the mouth, which is beneath the head, is somewhat like the opening of a purse, and is so formed as to be pushed suddenly out, or retracted: the upper part of the body is of a dirty olive colour: the lower parts silvery; and the tubercles are white in the middle: the tendrils on the snout, which are some inches in length, have so great a resemblance in form to the earth-worms, that, at first sight, they might be mistaken for them. By this contrivance, this clumsy toothless fish is supposed to keep itself in good condition, the solidity of its flesh evidently showing it to be a fish of prey. It is said to hide its large body among the weeds near the sea coast, or at the mouths of large rivers, only exposing its tendrils, which small fish, or sea-insects, mistaking for real worms, approach for plunder, and are sucked into the jaws of their enemy. It has been supposed by some to root into the soil at the bottom of the sea or rivers; but the tendrils above-

mentioned, which hang from its snout over its mouth, must themselves be very inconvenient for this purpose; and as it has no jaws, it evidently lives by suction, and, during its residence in the sea, marine insects are generally found in its stomach. From its quality of floundering at the bottom of rivers, the sturgeon has received its name from the Germans, the word *stoeren* signifying to wallow in the mud.

Sturgeons are found both in the European and American seas. At the approach of spring, they leave the deep recesses of the sea, and enter the rivers to spawn; and from May to July the American rivers abound with them. As they are not voracious fishes, they are never caught by baits, but in nets composed of small cords, and placed across the mouth of the river, but in such a manner, that whether the tide ebbs or flows, the pouch of the net goes with the stream.

THE TORPEDO.



THERE are about twenty species of the ray, of all of which the torpedo, or electric ray, is the most remarkable, as it possesses some very distinguishing peculiarities. In the general structure of its body, it has not been found to differ materially from the rest of the rays: the electric, or benumbing organs, are placed one on each side of the gills, reaching from thence to the semicircular cartilages of each great fin, and extending longitudinally from the interior extremity of the animal to the transverse cartilage which divides the thorax from the abdomen: and within

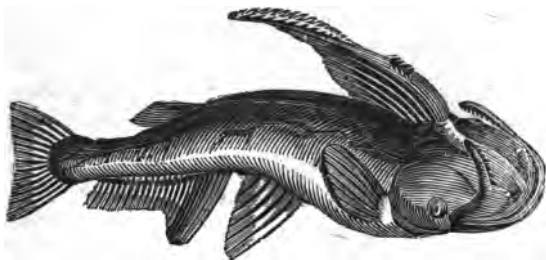
these limits they occupy the whole space between the skin of the upper and under surfaces: each organ is about five inches in length; and, at the anterior end, about three in breadth; they are composed of perpendicular columns, reaching from the upper to the under surface, varying in length according to the thickness of the parts of the body, from an inch and a half to half an inch. The head and body of the torpedo are distinct from each other, and nearly of a circular form; the skin is smooth, of a dusky brown colour above, and white underneath; the ventral fins form on each side, at the end of the body, nearly a quarter of a circle: the tail is short, and the dorsal fins are placed near its origin: the mouth is small, and, as in other species, there are on each side below it, five breathing apertures.

The electric rays are found in many of the European seas, and the fishermen often discover it in Torbay, and sometimes of such a size as to weigh eighty pounds. They are partial to sandy bottoms, in about forty fathoms of water, where they often bury themselves by flinging the sand over them, by a quick flapping of all the extremities. In Torbay they are generally taken like other flat-fish, with the trawl-net: and instances have occurred of their seizing a bait. They bring forth their young in autumn.

This fish's benumbing, or torporific quality, is one of the most potent and extraordinary faculties in nature. The ignorant stranger might imagine he is only handling a skate, when he is instantly struck numb.—Upon touching the torpedo with the finger, it frequently, though not always, happens, that the person feels an unusual pain and numbness, which suddenly seizes the arm up to the elbow, and sometimes to the very shoulder, or head.

Its chief force is at the instant it begins; it lasts but a few moments, and then vanishes entirely. If a man do not actually touch the torpedo, how near soever he holds his hands, he feels nothing; if he touch it with a stick, he feels a faint effect; if he touch it through the interposition of any pretty thin body, the numbness is felt very considerably; if the hand be pressed very strong against it, the numbness is the less, but still strong enough to oblige a man speedily to let go.

The engraving displays the interior of the lower electric, or galvanic organ.

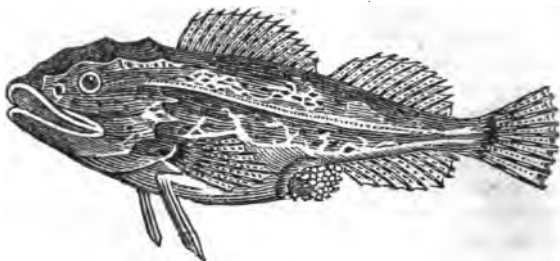
THE HORNED SILURE.

THE head of this fish is broad, flat, and thin; and the horns, which occupy the place of eyes in other species, are armed with short crooked spines, like teeth, and are probably weapons of defence: the eyes lie on each side of the head near the mouth: the head and body are entirely covered with a skin resembling leather; and the tail-fin slightly forked.

This fish is of a very dark green colour, the sides are somewhat lighter. Another remarkable peculiarity in this fish is the dorsal-fin: it is close to the head; and its front ray is long, stiff, dentated like the horns, and is probably an instrument of defence also: the belly is short and thick; and the lateral line goes meandering along the middle of the body, and puts out branches each way. This species grows to a considerable size; its flesh is eatable, but not much sought after. It is found near the shores of Asia and Surinam.

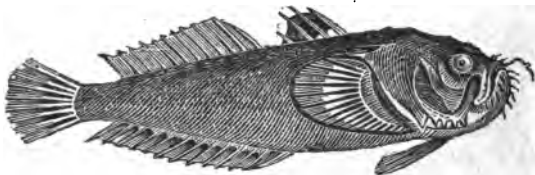
One of these fish caught at Surinam, on examination, was observed to have its mouth filled with yellow eggs, in none of which, however, could be found a fish completely formed; from which it is concluded, that the silure, to defend her eggs from the voracious tribes, hatches them instinctively in her mouth. But she is supposed, at times, to emit them from her mouth, when in search of food to appease her appetite, and when satisfied, to them into her mouth again.

Of the silure tribe, there are upwards of thirty different species, of which our limits will not allow us to give a description.

THE PORCELLUS, OR SEA-SCORPION.

THE mouth of this curious fish is wide, but without teeth; the head is flattish in the middle, but over each eye there appears a serrated ridge rising from it: the gills on each side have sharp horny spurs on their edges tending backwards, by which it derives its latter name: the body is almost as wide as it is deep, and the under side is of a silverish colour, tinged with red: the upper side is of a dusky brown, sprinkled with small black spots, with some large clouds of black. It has a lateral line from head to tail, and also two fins on the back, one on the belly behind the vent, and tail-fin: two narrow fins, or feelers, are placed under the fore part of the belly, of a whitish colour, each having only three spines.

The fish is found in the Mediterranean sea, and in several parts of the ocean: it keeps near the shores, and lies concealed among sea-weed, to prey on small strayed fishes.

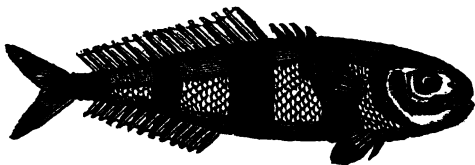
THE STAR-GAZER.

THE head is large, quadrangular, and covered with a rough helmet, which ends in two spines above, and in five smaller ones below: the mouth opens upwards;

and when the lower jaw is removed, the tongue appears, which is thick, short, and strong, and full of small teeth. There is a membrane inside the lower jaw, terminating by a long filament; the fish, opening its mouth, sets this in motion, which attracts little fish, who endeavour to seize it, and are presently devoured: there are two barbles from each lip, which serve for the same purpose; and this fish often conceals itself among the sea-weed, leaving only the barbles visible, when watching for prey. There are two oval apertures in the upper jaw, and several little barbles in the lower; near each eye is a round aperture. The eyes lie quite at the top of the head, very close together, and prominent, as if starting upward: the pupil is black, iris yellow.

The star-gazer inhabits the Mediterranean, lying in deep places near the shore. It seldom exceeds a foot in length, and lives on small fishes and worms.

THE PILOT-FISH.



THE body is long and banded, with four loose spines on the back; the head compressed, rounded off in front, without scales as far as the gills: the mouth is small; the jaws are of an equal length, and furnished with small teeth; the palate has a curved row of similar teeth in front; and the tongue has teeth all along; it is short, fleshy, and hardly moveable: the nostrils are double, and nearer to the muzzle than the eyes. The lateral line is curved first upwards, and then downwards, and is lost at the end of the tail; which is raised similar to many of the mackerel kind.

This species is found in the Mediterranean, Southern Ocean, East-Indies, and at the Cape of Good Hope. It grows to a foot and a half in length; and is well tasted. It derives its name from being commonly seen with the shark, to whom it appears to point out its prey.

THE MACKEREL.



THE common mackerel has a thick, round, fleshy body, but tapering towards the tail, which is forked. Its body is of a very elegant form, and beautifully variegated with the brightest hues of blue, green, and a silvery whiteness. Death, in some measure, impairs the colours, but it by no means obliterates them. Several varieties of this fish inhabit the ocean: they belong to the voracious class, and some of them grow to a very large size. As they are found in the German ocean, the Baltic, and the Mediterranean, it is not surprising that the ancient naturalists were acquainted with them. Subsequent naturalists have reckoned upwards of thirty varieties, but of these, only three are found upon our coasts; these are the common mackerel, the bastard, or horse-mackerel, and the thunny.

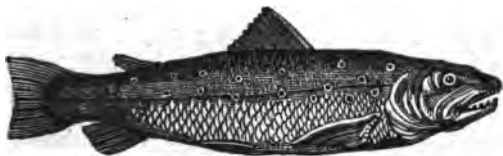
This fish emits a phosphoric light when fresh from the sea; it soon dies when taken out of the water, and even in the water, if it advances with too much impetuosity against the net. It is caught with that instrument, or with a hook baited with small herring and pieces of other kinds of fish or flesh. In some places it is taken by lines from boats, as during a fresh gale of wind, it readily seizes a bait; it is necessary that the boat should be in motion, in order to drag the bait along near the surface of the water. The great fishery for mackerel is on some parts of the west coast of England.—This is of such an extent, as to employ in the whole a capital of near two hundred thousand pounds.—The fishermen go out to the distance of several leagues from the shore, and stretch their nets, which are sometimes several miles in extent, across the tide during the night. The meshes of these are just large enough to admit the heads of tolerably large fish, and catch them by the gills. A single boat has been known to bring in, after the night's fishing, a cargo that has sold for near seventy pounds.

The mackerel is very good eating; but as it is fat, and consequently difficult of digestion, it is not fit for weakly persons, or valetudinarians.

THE SALMON.

THE salmon, which was known to the Romans, but not to the Greeks, is a soft finned, abdominal fish. It is easily distinguished from other fish, by having two dorsal fins, of which the hindermost is fleshy and without rays. It has teeth both in the jaws and in the tongue; and the body is covered with round and minutely-striated scales. The colour of the back and sides is grey, sometimes spotted with black, and sometimes plain; the covers of the gills are subject to the same variety; and the belly is silvery; the nose is sharp pointed; and, in the males, the under jaw sometimes turns up in the form of a hook.

Rapid and stony rivers, where the water is free from mud, are the favourite places of most of the salmon tribe, the whole of which is supposed to afford wholesome food to mankind.—These fish, when taken out of their natural element, quickly die: to preserve the flavour, they must be killed as soon as they are taken out of the water. The fishermen usually pierce them near the tail with a knife, when they soon die with loss of blood.

THE TROUT.

THE general shape of the trout is rather long than brood. In several of the Scotch and Irish rivers, they grow so much thicker than in those of England, that a

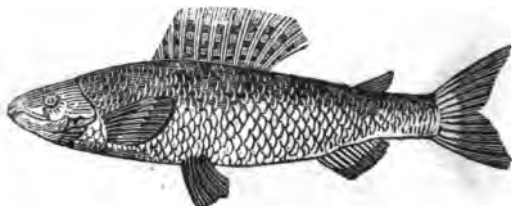
fish from eighteen to twenty-two inches, will often weigh from three to five pounds. This is a fish of prey: it has a short, roundish head, blunt nose, wide mouth, filled with teeth, not only in the jaws, but on the palate and tongue; the scales are small; the back ash colour; the sides yellow; and, when in season, is sprinkled all over the body and covers of the gills with small beautiful red and black spots: the tail is broad.

There are several sorts of trouts, differing in their size, shape, and hue; but the flesh of the best is either red or yellow, when dressed: the female has a smaller head and deeper body than the male. Their spots vary greatly in different waters, and at different seasons.

This fish, although very delicate, and at present well known, was in no esteem among the ancients. It is said to be in season from March to September. It is, however, fatter from the middle to the end of August, than at any other time.

The trout is not easily caught with a line, being at all times exceedingly circumspect. The baits used are worms, or artificial flies. The season for fishing, is from March to Michaelmas. Cloudy weather is generally preferred for angling, but there is no particular time of the day.

THE GRAYLING.



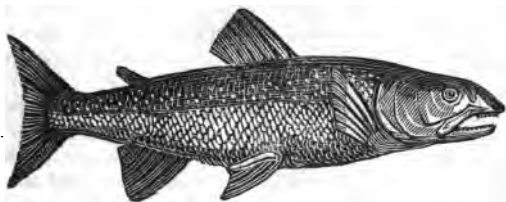
THIS fish is of a very elegant form: the body is less than that of the trout; the head is small, with protuberant eyes, the irides of which are silvery, speckled with yellow; the mouth is of a middle size, and the upper jaw the largest. The teeth are very minute, seated in the jaws and roof of the mouth, and feel like a fine file; the head is dusky; the covers of the gills of a glossy green; yet, when in prime perfection, these parts are blackish: the back is of a dusky green, inclining to blue;

the sides of a fine silvery grey; but, when first taken, they seem to glitter with spangles of gold, and are marked with black spots irregularly placed. The side line is nearly straight; the scales are large, and the lower edges dusky, forming straight rows from the head to the tail, which is much forked: the large dorsal fin is spotted; the other fins are plain; it is rather hog-backed; and, from the nose and belly touching the ground together, it is supposed that this fish feeds mostly at the bottom.

The grayling haunts rapid and clear streams, particularly such as flow from mountainous countries; it is found in those of Derbyshire, Shropshire, Yorkshire, &c. In Lapland, (where it is very common,) the inhabitants use its entrails, instead of rennet, to make cheese, which they get from the milk of the rein-deer. The grayling seldom exceeds sixteen inches in length; yet one was taken near Ludlow about half a yard long, and weighing four pounds six ounces; and near Shrewsbury, one was caught which weighed full five pounds.

These fish bite during the whole of cool, cloudy days; but the preferable time, in spring and summer, is from eight until twelve in the morning, and from four until sunset in the evening; and from September to January, in the middle of the day.

THE RED CHAR.

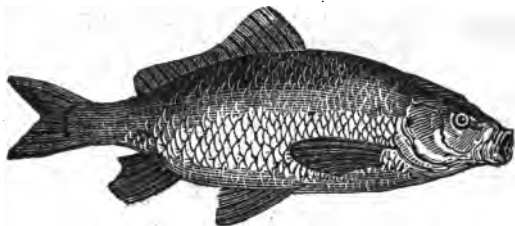


THE head of this fish terminates in a blunt point. The body is covered with very minute scales; the lateral line is straight: all the fins, except the dorsal, are redish. This species is very properly denominated the Alpine Char, by Linnæus; for its constant residence is in the lakes of the high and mountainous parts of Europe. A few are found in some of the lakes in Wales, and in Loch Inch, in Scotland; from which last, it is said, they migrate into the Spey to spawn. Seldom, however, does

this species venture into any running streams; its principal resort is in the cold lakes of the Lapland Alps, where it is fed by the innumerable quantity of gnats that infest those dreary regions.

The largest and most beautiful chars are found in the lake of Winander-Mere, in Westmoreland, where there are three species, the red, the gilt, and the case char. These kinds are nearly similar in their external appearance; but the time and manner of their spawning is very different.—The method of taking these fish is with nets, or trammels, as they are called, which are furnished with bait to allure the fish, and left for several days, till they are known to enter them.

THE CARP.

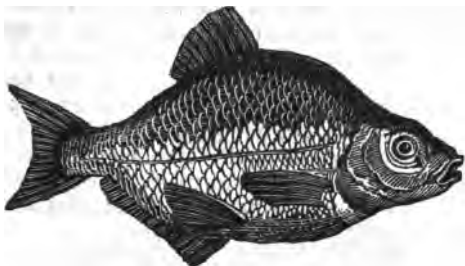


THE mouth of this fish is toothless; their gills have three rays, and their belly fins frequently nine: their form is somewhat thick; and their colour blue green above, greenish-yellow mixed with black, on the upper part of their sides, whitish beneath, and the tail yellow or violet: the scales are large: on each side of the mouth there is a single beard, and above this another, shorter: the dorsal fin is long, extending far towards the tail, which is forked. They are found in the slow rivers and stagnant waters of Europe and Persia, and here principally in deep holes under the roots of trees, hollow banks, or great beds of flags, &c. When full grown, they are nearly four feet in length, and twenty pounds in weight.—Carps are supposed to have been brought to this country by a Sussex gentleman, about the year 1514, in which county, perhaps, this fish abounds, more than in any other.

Carp, from their quick growth and vast increase, are the most valuable of all fishes for the stocking of ponds; and if the breeding and feeding of them were better un-

derstood, and more practised, the advantages resulting from them would be very great. These fish spawn in June, and sometimes in May, when it is a forward spring, seeking places covered with grass or plants, for depositing their eggs. They feed principally on mud worms, and aquatic insects.

THE BREAM.

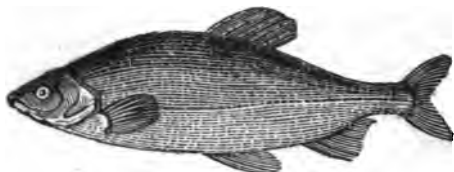


THE bream has a blunt snout; the upper jaw is a little protubed; the front is dark blue, the cheeks inclining to yellow: the fish, when at its full growth, is broad and thick; the young ones, on the contrary, are narrow and long: they are covered with pretty large scales; the back is blackish, sharp, and resembles a bow on the stretch. The lateral line is curved towards the belly, and ornamented with about fifty black spots. The tail is a little forked, and of a dark blue colour.

This fish is an article of great importance on the Continent.—It is found in all the great lakes, and in rivers which have a gentle current, and a bottom composed of marl, clay, and herbage.—It is taken mostly under the ice; and this fishery is so considerable, that in some of the lakes belonging to Prussia, there have been taken to the value of two hundred pounds at a time; they are also caught in great quantities at Holstein, Mecklenburg, Livonia, and Sweden: in a lake near Nordkiæping, there were taken at one time in March, 1749, no less than fifty thousand, weighing eighteen thousand two hundred pounds.

The bream may be taken with divers kinds of nests in spawning time: and, being fond of worms, will readily take a bait.

THE ROACH.



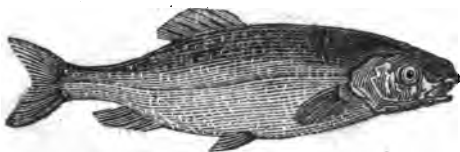
THIS fish is remarkable for its numerous progeny.—It is deep, yet thinly made, in shape nearly resembling the bream, but approaching to the carp by the breadth and shape of its scales, which are large and fall off at different seasons of the year. The soundness of the flesh has become proverbial, and pleases the taste by a peculiar delicacy of flavour. The belly-fins are of a bright crimson, and the irides of the eyes sparkle like rubies and granite. The size of the roach is commonly between nine and ten inches, but sometimes attains a much greater bulk.

THE PERCH.

THIS fish seldom grows to any great size, and the largest, of which we have any account, is said to have weighed nine pounds. The body is deep; the scales rough; the back arched; and the side lines placed near the back. For beauty of colour, the perch may rival the gaudiest of the inhabitants of the pond, the lake, or the river; the back glows with the deep reflections of the brightest emerald, divided by five broad stripes; the belly imitates the tints of the opal and mother of pearl, and the ruby hues of the fins complete an assemblage of colours the most harmonious and elegant. It is a gregarious fish, and is caught in several rivers of this island; the flesh is firm, delicate, and much esteemed. They are generally boiled in wine or vinegar, which adds a considerable solidity and flavour to the flesh.

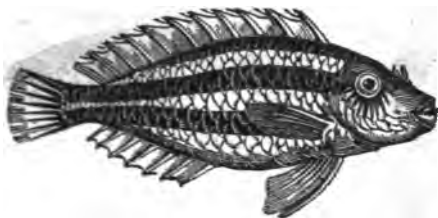
These animals are remarkably tenacious of life; and some of them, particularly the river-perch, have been carried sixty miles among straw, and have survived the journey. From the ease with which this fish is taken and transported, it has become the most common inhabitant of our fish-ponds.

THE CHUB.



THE chub is of a coarse nature, and full of bones; it seldom exceeds the weight of five pounds. The body is of an oblong shape, nearly round; the head, which is large, and the back, are of a deep dusky green; the sides silvery; and the belly white; the pectoral fins are of a pale yellow, the ventral and anal ones red; and the tail brown, tinged with blue at its extremity, and slightly forked. This fish frequents the deep holes of rivers, but in the summer season, when the sun shoots his golden rays through the pellucidity of the crystal-like waters to the smooth and resplendent pebbles that pave the bed of the stream, it ascends to the surface, and lies quiet under the cooling shade of some tree that spreads its foliage on the verdant banks; but yet, though it seems to indulge itself in slumbers, the fear of danger, that innate sense of self-preservation, one of the first laws of nature, keeps the creature awake, and at the least alarm it dives with rapidity to the bottom. It lives on all sorts of insects. In March and April, the chub is to be caught with large red worms; in June and July, with flies, snails, and cherries; but in August and September, the proper bait is good cheese pounded in a mortar, with some saffron and a little butter. Some make paste of cheese and Venice turpentine for the chub in winter, at which season this fish is much better than at any other, the bones are less troublesome, being more easily separated from the flesh in this season, and the flesh more firm and better tasted; the roe is also well-flavoured in general. If the angler keeps his bait at the bottom in cold weather, and near the surface in the hot season, the fish is sure to bite soon, and will afford a most pleasing sport.

The ancient naturalists have enumerated five varieties of this fish; some of which are found in the Danube and the Rhine. The above species inhabit most of the rivers in this island.

THE PARROT-FISH.

THE head of this fish is somewhat similar to the carp. The body is broad, the tail narrow: the ground colour is red, which is beautifully relieved by broad silvery stripes all along the body; the belly is white. The fins are small; the scales broad, thin, finely radiated, and very loose: the pectoral, tail, and ventral fins, are yellow at their origin, and grey at the extremities; and a kind of spine runs along the root of the ventral fin.

This species is found in both Indies; it takes its name from the Isle of St. Croix at the Antilles, from whence a specimen of it was received.

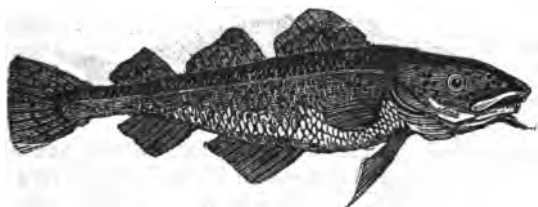
THE GOLD-FISH.

THESE fish are esteemed the most elegant of all the finny tribe. The male is of a bright red colour from the top of the head to the middle of the body; the rest is of a gold colour, but it is so splendid that the finest gilding cannot approach it. The female is white, but her tail, and half of her body, resembles the lustre of silver. The red and white colours are not always the distinguishing marks of the male and female; but the females are known by several white spots which are seen round the orifices, that serve them as organs of hearing, and the males have these spots much brighter. The nostrils of the gold-fish are double, wide, and placed near the

eyes: the body is covered with large scales; and the tail is forked; but there is no fish in which the fins vary so much. The colour of the gold-fish changes with age: in the first year, it is generally black, a colour very rarely found among the inhabitants of the watery element; in the course of a few years, silvery spots make their appearance, and gradually increase till they cover the whole body: it then turn red, and becomes more beautiful the older it grows. Sometimes, indeed, it turns red before it assumes the silvery hue; and in some instances, the fish is red from the very first.

These fishes are natives of a lake not far from the high mountain of Tsenking, near the city of Tehangou, situated in the province of Che Kiang, in China. From this place they were transported to the other provinces of that empire, to Japan, and at length to Europe.

THE COD.



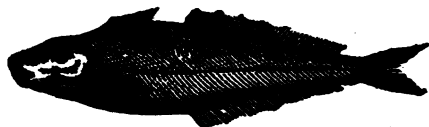
THE head of the cod fish is smooth; the colour on the back and sides is of a dusky olive, variegated with yellow spots; its belly is white: the lateral line runs from the gills to the tail, which at the abdomen is curved, but elsewhere is straight; its scales are very small, and adhere firmly to the skin; its roes are large: at the angle of the lower jaw there hangs a single beard, which is short, seldom exceeding a finger's length: its tongue is broad; it has several rows of teeth, like the pike; and in the palate, near the orifice of the stomach, and near the gills, it has small clusters of teeth: it has three back fins, two at the gills, two at the breast, and two others behind the anus: the tail is plain.

These fish are found only in the seas of the northern parts of the world; and the great rendezvous for them are the sand-banks of Newfoundland, Nova-Scotia, and New England. These shallows are their favourite situ-

ations, as they abound with worms, a food that is peculiarly grateful to them. Another cause of their attachment to these places is, their vicinity to the polar seas, where they return to spawn. There they deposit their roes in full security, and afterwards repair, as soon as the more southern seas are open, to the banks for subsistence; consequently, the cod may justly be placed at the head of the migrating or wandering tribes of fish. A few are taken north of Iceland, and the shoals never reach so far south as the straits of Gibraltar.

Previous to the discovery of Newfoundland, the principal fisheries for cod were in the seas off Iceland, and off the western islands of Scotland. To the former of these the English resorted near four centuries, and had no fewer than one hundred and fifty vessels employed in the Iceland fishery in the reign of James I.

THE WHITING.



THE name of this fish arises from the silvery hue which pervades the whole body, which is long, and covered with small, round, thin, silvery scales. The head ends in a point: the eyes, near which are the nostrils, are round, with a large black pupil, and silvery iris; the upper jaw is armed with several rows of teeth, of which those in the front are longest; the lower jaw has but one row: the back is olive colour, and arched, as is the belly: the sides are somewhat compressed; and the anus is nearer the head than the tail. The lateral line has a straight direction. The fins are white, except the pectorals and tail, which are blackish.

This fish is found in the Baltic and North Seas, though not numerous in the former; but they are plentiful on the coasts of Holland, France, and England, where they are reckoned the most delicate and wholesome species of the genus. They attain the length of a foot, sometimes one and a half, rarely two; but on the Dogger-bank they are caught of the weight of from four to eight pounds. They live at the bottom of the sea; feeding on little crabs,

worms, and young fry, particularly of sprats and herrings, which therefore are the usual baits. They are caught usually with a ground-line, sixty-four fathoms long, with from a hundred to two hundred hooks. One vessel throws out about twenty of these lines, armed with four thousand hooks, and they need only lie about two or three hours. The greatest fishery for whittings is carried on in France from December to February; but in England and Holland, in the spring. They appear in such quantities on our coasts, as to form shoals for three miles long and a mile and a half wide; and as they are caught in too great numbers to be eaten fresh, they salt them, by which, however, they lose the delicacy of their taste, and are then called buckthorn; they are often used in this state as ships' stores. As they pursue the herrings, they are often taken in the same nets; and are in the greatest perfection at this time, because they are fattened by feeding on the young herrings. In October the roes and ovaries begin to swell; and they continue spawning from the end of December till the beginning of February; and about that time they become soft, lean, and insipid to the taste. They are pursued by all the rapacious tribes that inhabit the sea; yet they multiply fast.

THE PIKE.



THE head of the pike is very flat; the eyes small, and of a gold tinge; the upper jaw broad, and shorter than the lower, which turns up a little at the end, and is marked with minute punctures: the teeth are very sharp, disposed not only in the point of the upper jaw, but in both sides of the lower, in the roof of the mouth, and has often three rows upon the tongue, and even down to the orifice of the stomach; the gape of the jaws is wide, although loosely connected; they have on each side an additional bone, like the jaw of a viper, which renders them capable of greater distension when the prey is swallowed; the body is long; the back broad, and almost

square when in its best state: the belly is always white. When in high season, their colours are very fine, being green, spotted with bright yellow; and the gills are of a most vivid red; out of season, the green assumes a grey appearance, and the yellow spots turn pale. The dorsal fin is placed low on the back.

The pike has been poetically styled the tyrant of the watery plain; and, in fact, in proportion to its strength and celerity, he is the most active and voracious of the fresh-water fish. He will attack every fish less than himself, and is sometimes seen choaked by attempting to swallow such as are too large a morsel. It is immaterial of what species the animal it pursues appears to be, whether of another or its own; all are indiscriminately devoured; so that each fish owes its safety to its minuteness, its celerity, or its courage: nor does the pike confine itself to feed on fish and frogs, it will draw down the water-rats and the young ducks as they are swimming about.

These fish afford the angler good sport, being bold biters.—For trolling, the rod should be twelve or fourteen feet long.—The best baits are gudgeons or dace, of a middling size; the bait should never be thrown too far. Pike are to be allured by a large bait, but a small one is more certain to take them.

THE HERRING.



THE common herring is distinguished from the other fish of the same tribe, by the projection of the lower jaw, which is curved, and by having seventeen rays in the ventral fin. The head and mouth are small, the tongue short, pointed, and armed with teeth; the covers of the gills generally have a violet or red spot, that disappears soon after the death of the fish, which survives a very short time, when taken out of its natural element.

The principal of the British herring fisheries are off the Scotch and Norfolk coasts; and in our seas, the fishing is always carried on by nets stretched in the water,

one side of which is kept from sinking by means of buoys fixed to them at proper distances; and as the weight of the net makes the side sink to which no buoys are fixed, it is suffered to hang in a perpendicular position, like a screen; and the fish when they endeavour to pass through it, are entangled in its meshes, from which they cannot disengage themselves.—There they remain till the net is hauled in, and they are shaken or picked out. The nets are never stretched to catch herrings but during the night, for in the dark they are to be taken in much the greatest abundance.

After the nets are hauled, the fish are thrown upon the deck of the vessel, and each of the crew has a certain task assigned to him.—One part is employed in opening and gutting them, another in salting, and a third in packing them in the barrels in layers of salt. The red herrings lie twenty-four hours in the brine: they are then taken out, strung by the gills on little wooden spits, and hung in a chimney formed to receive them; after which a fire of brush-wood, which yields much smoke, but no flame, is kindled under them, and they remain there till sufficiently smoked and dried, when they are put into barrels for carriage.

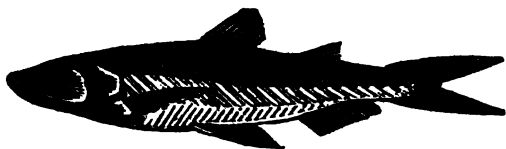
Herrings become very soon tainted after they are dead; in summer they are sensibly worse for being out of the water only a few hours; and if exposed only a few minutes to the rays of the sun, they are quite useless, and will not take the salt.

THE SPRAT.



THE sprat is a native of the European seas, greatly resembling the herring, though a good deal smaller, and having thirteen rays in the back fin. They are caught in the Thames from the beginning of November till March, and afford a very seasonable relief to the poor of the metropolis.

Sprats are sometimes pickled, and rendered in flavour scarcely inferior to anchovies, from which they are only to be distinguished by their bones being indissoluble.

THE SMELT.

THERE are two species of this soft-finned abdominal fish, which derives its name from having, in the opinion of some, the scent of a violet, of others, that of a cucumber; and so strange is the disagreement respecting the smell of this fish, that the Germans have bestowed upon it the name of the stink-fish.

The first species, called the *hepsetus*, has about twelve rays in the fin next the anus: it is found in the northern seas, and is very plentiful in the sea near Southampton, and on other coasts of our island. The length is about five inches, and the tail is much forked: it is a beautiful little fish, semi-pellucid, covered with scales; the colour silvery, tinged with yellow: beneath the side line is a row of small black spots, and the under jaws rather prominent; in the front of the upper are four large teeth; the flesh is tender, and of a delicate taste.

The other species, called the *menidea*, has twenty-four rays in the fin next the anus.—This is a very small pellucid fish, with many black points interspersed: it has many teeth in the lips, but none in the tongue or jaws. It is found in the fresh waters of Carolina.—The skin of this fish is in general so thin, that with a good microscope, the circulation of its blood may be seen.

The smelt is to be angled for (when the tide runs up, is preferable) with a paternoster line, having five or six hooks so many inches from each other, and baited differently. The best baits are very small shrimps, not boiled, or the tail of a boiled one: next to these are gentles and red-paste; also that made of boiled shrimps, fine white wheat bread, and a little honey; cadis blood worms; and sometimes they will take a bit of their own species. Some crumbs of bread should now and then be thrown in to keep them together.

These fish are taken in abundance in the Thames and Dee in November and the two succeeding months; in other rivers not until February.

THE ANCHOVY.

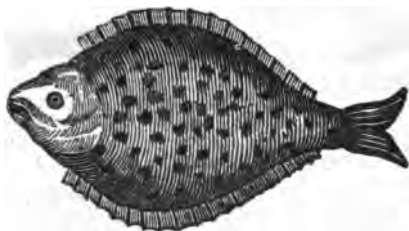
THE anchovy is about three inches long, though mention is made of some being six inches and a half. The nose is pointed; the edge of the jaws finely serrated, the upper being longer than the under; the eyes large; the body round and slender; the back of a dusky green colour; the sides and belly of a silvery white: between the ventral fins it has a long pointed scale; and the tail is forked.

At different seasons it frequents the Atlantic ocean and the Mediterranean sea, passing through the Straights of Gibraltar towards the Levant in the months of May, June, and July. The greatest fishery is at Gorgano, a small isle west of Leghorn, where they are taken at night in nets, into which they are allured by lights fixed to the stern of the vessels. When cured, their heads are cut off, their gall and entrails taken out, then salted and packed in barrels. It scarce needs to be mentioned, that, being put on the fire, they dissolve in almost any liquor.—They are well tasted, when fresh.—But it has been found by experience, that anchovies taken thus by torch-light, are neither so firm, so good, nor so proper for keeping, as those that are taken otherwise.

THE SOLE.

THIS well known and delicious fish is remarkable for one very extraordinary circumstance; among various other marine productions, they have been known to feed on shell-fish, although they are furnished with no apparatus whatever in their mouth for reducing them to a state calculated for digestion. But the most usual food for soles, is the spawn and young of other fish.

These fish are found on all the British coasts; but those off the western shores are much superior in size to what are taken in the north, since they are sometimes found of the weight of six or seven pounds. The principal fishery for them is in Torbay.

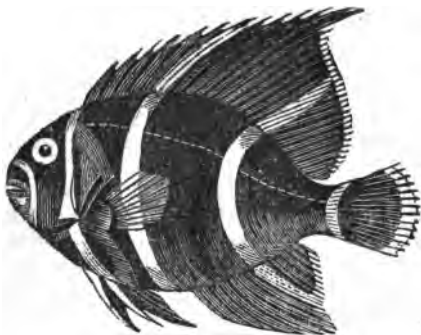
THE TURBOT.

THE turbot, like some others of the flat fish, grows to a great size. Flat-fish swim sideways, on which account they are styled pleuronectes by Linnæus. The eyes of all of them are situated on one side of the head; and it is a curious circumstance, that while the under parts of their body are of a brilliant white, the upper parts are so coloured and speckled, as, when they are half immersed in the sand or mud, to render them imperceptible. Of this resemblance they are so conscious, that whenever they find themselves in danger, they sink into the mud, and continue perfectly motionless. This is a circumstance so well known to fishermen, that within their palings on the strand they are often under the necessity of tracing furrows with a kind of iron sickle, to detect by the touch what they are not otherwise able to distinguish.

The manner of fishing for turbot off the Yorkshire coast is as follows: three men go out in each of the boats, each man provided with three lines; every one of which is furnished with two hundred and eighty hooks, placed exactly six feet two inches asunder. These are coiled on an oblong piece of wicker-work, with the hooks baited, and placed very regularly in the centre of the coil. When they are used, the nine are generally fastened together so as to form one line with above two thousand hooks, and extending near three miles in length. This is always laid across the current. An anchor and a buoy are fixed at the end of each man's line. The boats for this purpose are each about a ton burden; somewhat more than twenty feet in length, and about five in width. They are well constructed for encountering a boisterous sea, and have three pair of oars, and a sail, to be used as occasion requires.

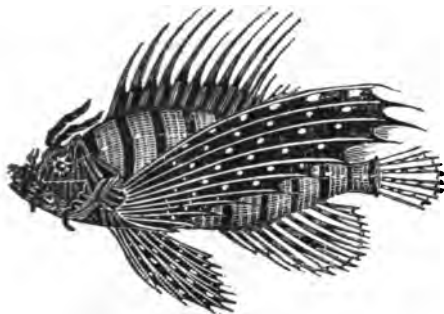
The general bait used for taking turbot is fresh herring cut into proper sized pieces, at which they bite most readily; they are also partial to the smaller lampreys, pieces of haddocks, sand-worms, muscles, and limpets; and when none of these are to be had, the fishermen use bullocks'-liver. They are so extremely delicate in their choice of bait, as not to touch a piece of herring or haddock that has been twelve hours out of the sea.

THE BOW-BANDED CHETEDON.



THE head of this curious fish is large; the eyes placed near the top, and small; the pupil black, iris gold yellow; the aperture of the gills is wide; and at the covert there is a spine. The lateral line is made up of white dots. The ground colour is brown; which towards the back inclines to black; and looks as if covered with velvet and inlaid with ivory: the tail is not divided. This species inhabit the coasts of Brazil, and other parts of South America; and grow from three to six inches in length.

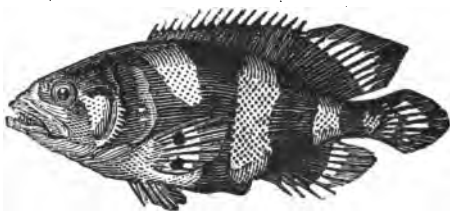
In winter, or the rainy seasons, they lie in deep holes near the shore, which they quit in spring to come into the shallows near the land; during the summer, when the sun in those climates blazes the whole day with irresistible fierceness, they keep at the depth of twenty or thirty yards, which protects them from its intense heats. —They spawn in the coolest time of the year; and, being a lively fish, great numbers of the young fry are caught for the sake of being kept in vases, but in which they seldom come to maturity, and never increase.

THE FLYING SCORPION.

THE head of this fish is truncated, broad in front, compressed at the sides, furnished with pretty large spines and fringed barbles; the longest of these are over the eyes, and the broadest near the corners of the mouth. There are several brown stripes on the body and head; with yellow and white streaks alternately shining between: the mouth is large; the jaws of equal length, and armed with a great number of little sharp teeth: the tongue is loose, thin, and pointed at the end; the lips are moveable also; the upper lip is composed of two bones, which form a furrow in the middle where they join: the nostrils are single, and lie midway between the mouth and eyes: the eyes have a black pupil, and a white iris, with blue and black rays: the gill-covert terminates in a sharp angle, and is furnished with very minute scales; the aperture is wide, and the branchial membrane is in great part naked. The scales on the body are small, and lie one over the other, like tiles on a house. The lateral line consists of little risings and white points: the rays of the pectoral fins are simple, and the membrane has a violet ground, with white dots; these large fins probably enable the fish to dart out of the water when pursued by an enemy. The first twelve rays of the dorsal fin are spiny, spotted brown and yellow, united below by a dark brown membrane, and at liberty above; the last twelve rays, as well as those of the anal and tail fins, are divided at the ends, and spotted black and yellow. The ventral fins are violet, with white dots: the first ray is hard.

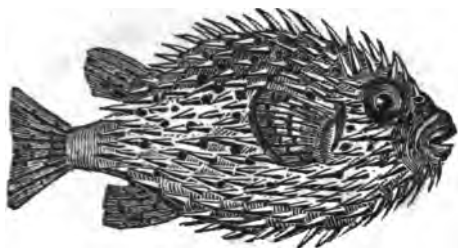
This variegated fish is found in the rivers at Amboyna and Japan; but even there it is scarce: it is also known at Tranquebar. The flesh is white, firm, and well tasted, like our perch, but it does not grow so large. It is of the voracious kind, feeding on the young of other fish; entire fishes of two inches and a half long have been found in the stomach. The skin is like parchment.

THE LANCEOLATED HOLOCENTER.



THE head is large, with a mouth in proportion; the bones of the lips are broad; the jaws are of equal length, and armed with several rows of little sharp teeth; as is the palate; but the tongue is smooth and moveable: the nostrils are double, the hinder pair near the eyes. Hereabout begin the scales, which are small, tender, and smooth. The pupil of the eye is black; iris blue: the front operculum is made of two small rounded plates, of which the hinder one is strongly serrated: the gills have a wide aperture, and one half of the membrane is concealed: the body is broad; the belly prominent; and the anus in the middle of the body. The colour of the fish is silvery, with transverse stripes and spots of brown. The soft rays of the fins are mostly divided into four branches. This species is produced in the East Indies, and takes its name from the shape of the fins.

On the coasts of Africa and America, and in the waters of the East Indies, are found several varieties of the holocenter, which are remarkable for the brightness of their colours; and are known, by the structure of their mouths, to be carnivorous. They mostly prey on crabs and young fishes, which they swallow whole. Their flesh is much esteemed by the natives, it being pleasant and wholesome food.

THE PORCUPINE FISH.

THE head is small; the eyes large, with a black pupil, and yellow iris: the nostrils are near the eyes. The aperture of the gills is crescent-shaped, and close to the pectoral fin. The back is of a blueish colour; sides and belly white. The fins are all short, with black spots and branched rays; and the body is covered with light and dark brown spots: the spines are longer on the sides than on the back and belly.

This species is found not only in America, but in the Red-Sea, and near the shores of Japan. At New-York, where it appears only in the summer months, it goes by the name of the goad-fish; and the natives fish for them for amusement.—They throw in a line baited with the tail of a sea-crab; the fish approaches, but, being afraid of the line, it makes several turns and trials round the bait, and at length nibbles at it, but pretends to reject it, and passes by, striking it with its tail, as if it did not regard it: but if the rod be kept steady, it presently turns back, seizes the bait, and swallows hook and all. When it finds itself taken, it becomes enraged, bristles up its spines, swells out its belly, and endeavours to wound every thing that is near it. Finding this of no avail, it resorts to cunning, and seems to submit: it lowers its spines, contracts its body, and lies like a wet glove. But this artifice not succeeding, and perceiving the fisherman dragging it towards the land, it renews his defensive attitude with redoubled fury. The spines are now vigorously erected, its form rounded, and its body so completely armed at all points, that it is impossible to take it by the hand; it is therefore dragged to some distance, where it struggles and quickly dies.

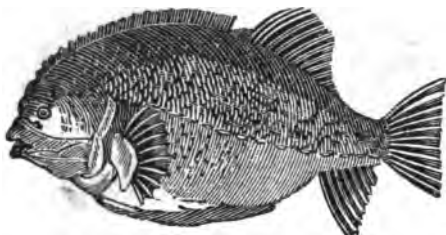
THE SPOTTED TOAD FISH.

THE head is small; the lower jaw protrudes beyond the upper, both furnished with very small teeth, like a file; in the middle there is a small cartilage, which serves instead of a tongue; the lips, and indeed many other parts of the body, send out barbles. The body is laterally compressed, and armed with crooked spines: the head and back are broad in front, but go tapering towards the tail; the belly is thick, and swelling out. From the upper lip shoots out an elastic barble, at the end of which are two long fleshy substances which seem as if formed for holding prey; behind this barble is another fleshy ray, and stronger; and between that and the dorsal fin another still thicker; both are fastened to the back by a skin; these instruments help this clumsy slow-swimming animal in catching its prey. The eyes are near the mouth; they are round; they have a black pupil, and the iris is yellow, striped with brown.

This fish is yellow on the sides and back; brown on the belly; and the body and fins are varied with stripes and spots of brown colour, of different shapes; the stripes are broad in some parts, in others only strokes; some have white spots, others brown edged with white. The pectoral and ventral fins give this animal the look of a quadruped, but the other fins shew it to be a fish. It has no lateral line, any more than the rest of the genus. The skin on the belly is thin, and only fastened to the flesh here and there by little bandages.

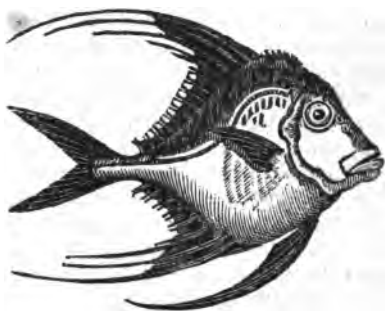
This fish is found in Brazil and China; it generally keeps at the bottom of the water among sea-weed, or between stones, and grows to the length of nine or ten inches.

THE LUMP-FISH.



THIS fish is remarkable for its big belly, which is swelled out by a large double urinary bladder. The mouth is in the upper part of the head, and very wide; the teeth are numerous, but stand without order: the gill-coverts are fastened to the aperture almost all round: the skin is covered with a thick mucus; all its parts are flabby and loose. The upper surface is mostly of an olive colour. This species is found in the sea which separates Kamtschatka from North America; it seldom exceeds a foot in length.

THE SEA-COCK.



THE body of this fish is very thin, of a silver colour, inclining to red, and without visible scales. The head is large, very much shelving; the mouth large; the jaws

are furnished with very small teeth, and the upper lip with two large bones: the nostrils are double, and near the eyes, which are round and large; the pupil is black, the iris brown, inclining to a silver grey: the opening of the gills is large; the covert is long, consisting of one plate, under which the membrane is hid: the lateral line is crooked at its origin; the anus is not far from the ventral fins. All the fins are of a bright green colour; in the dorsal fin, the nine first rays are short and hard, the next four long and soft, and both are single; the pectoral, ventral, and tail fins, are branched.

This fish lives in all climates, being found, according to different authors, at Brazil, Jamaica, the Antilles, the East Indies, and Malta. It grows from six to nine inches in length, is well tasted, and lives upon worms, insects, and other little marine animals.

THE RIBBON-FISH.



THE head of this fish is broadest at top, the mouth large, and opening obliquely; the under jaw is the longest, and both are armed with sharp teeth, one row in the upper, and two in the lower: the tongue is thin, broad, and rough: the eyes are large, standing at the top of the head; the pupil is black; the iris silver, mixed with blue; there is a round hole in the inner edge of each eye: the aperture of the gills is wide; the covert single: before the aperture are five minute holes, and several of the same kind near the eye; they probably secrete a viscous or slimy matter. This fish has an extremely slender and tapering shape; the body being twelve inches in length, and scarcely one in thickness; it is of a silvery colour, and semi-transparent. The pectoral fins are small; and their rays so slender, that they are almost imperceptible. About an inch behind the head, rises the dorsal fin, which is continued

till it joins the tail, where it meets the anal fin, which begins so near the throat, that the anus is situated immediately below the angle of the lower jaw. The fins display a great brilliancy of colour, being of a most beautiful red, with five spots of a deeper or brighter cast, placed on each side of the body: the tail is wedge-shaped: the head is of a silver colour, mingled with red; the back is grey; and the sides and belly silvery.

This fish is found in the Mediterranean; it is sold in the markets of Rome; but its flesh is of an indifferent quality, and very lean. It is mostly used for bait. It lives on young crabs and other small shell-fish. It haunts marshy places near the shores; and may be caught with a line baited with a worm or the shell of a small crab.

THE FLYING FISH.



THE winged flying fish, if we except its head and flat back, has, in the form of its body, a great resemblance to the herring. It is generally nine inches long, and full four round at the thickest part. The skin is uncommonly firm, and the scales are long and silvery. The pectoral fins are very long; and the dorsal fin is small, and placed near the tail, which is forked: the eye, in consequence of the largeness of the head, is admirably situated for discovering danger or prey; and when pushed out of the socket, which the fish can do considerably, its sphere of vision is greatly increased.

The flying fish inhabits the European, the American, and the Red Seas: but is chiefly found within the tropics. The wings, with which they have the power of raising themselves into the air, are nothing more than large pectoral fins, composed of seven or eight ribs, or rays, connected by a flexible, transparent, and glutinous membrane; they have their origin near the gills, and are

capable of considerable motion backwards and forwards; these fins are used also to aid the motion of the fish in the water; and if we may judge from the great length and surface of the oars, comparatively with the size of the body, the fish should be able to cut its way through the water with great velocity.

In flying, as it is termed, not only the wings and fins of this fish are much expanded, but also its tail; it skims along the surface of the deep, somewhat in the manner of a swallow, but in straight lines; and from the blackness of its back, the whiteness of its belly, and forked expanded tail, it has much the appearance. It flies fifty or sixty yards at one stretch; and repeats the exertion again and again by a momentary touch on the surface of the water, which gives vigour for a new departure.

It has been inconsiderately remarked, that all animated nature seems combined against this little fish, and that it possesses the double powers of swimming and flying only to subject it to greater danger: for if it escape its enemies of the deep, it is only to be devoured by the sea fowl, which are waiting its appearance in the air. Its destiny is, however, by no means peculiarly severe: we should consider that, as a fish, it often escapes the attack of birds; and, in its winged character, it often throws itself out of the power of the aquatic race.

THE REMORA, OR SUCKING-FISH.



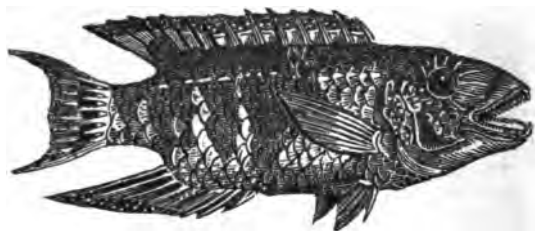
THERE are only three known species of the sucking-fish; these are occasionally seen in the Mediterranean sea and the Pacific ocean. The common sucking-fish, which inhabits most parts of the ocean, is usually about a foot in length; the head is large, equal in bigness to the body, which grows smaller gradually to the tail: the back is

convex, and black ; and the belly white : it has six fins, two growing from behind the gills, two more under the throat, a long one on the back, and opposite to it, under the belly, another of the same form and size : the tail is wedge-shaped.

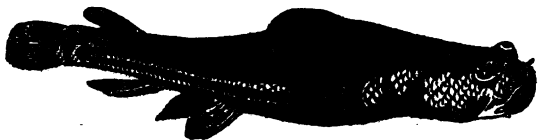
What this fish has peculiar to itself, is, that the crown of the head is flat, and of an oval form, with a ridge, or rising, running lengthways ; and crossways to this, sixteen ridges, with hollow furrows between, by which structure it can fix to any animal or other substance, as it is often found adhering to the sides of ships, and the bodies of sharks, and other large fish.

Sucking fish are often eaten, and much admired : in taste they are said very greatly to resemble fried artichokes.

THE STREAKED GILTHEAD.



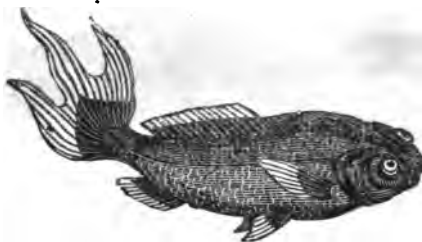
THE head of this fish is compressed, and bare of scales as far as the eyes ; the mouth is large ; the jaws are of equal length, with two strong canine teeth in front of each ; the back teeth are flat, resembling the grinders of quadrupeds ; the palate and tongue are smooth : the nostrils are single, and near the eyes ; these last are small, with a black pupil in a blue iris : the aperture of the gills is wide, and the membrane mostly uncovered : the body is of a yellow colour, with six or seven brown transverse stripes ; the scales are broad, thin, smooth, and extend over part of the anal, tail, and dorsal fins : the lateral line goes straight along the back to the end of the dorsal fin ; it begins again about the middle of the tail, and is lost in the fin. This fish inhabits the shores of Japan, and the Red sea.

THE FOUR-EYED LOACH.

THE head of this species is broader than high, and the forehead shortened; the lower jaw is the longest, and it lengthens downwards, not in front, like other fish. Both jaws, as well as the palate and tongue, are armed with teeth; the barbles arise from the corners or extremities of the upper lip: the nostrils are single, and near the mouth: the eyes are very remarkable; each containing two parts, or a double pupil, which has caused them to be called four eyes: the cavity of the eyes differs from other fish; this cavity is not a cylinder, as in other animals, but a part of one only: on each side, at the top of the head, there is an arched thin bone advancing towards the skull; these bones face each other with their concave surfaces; the eye is cylindrical, and is fixed in this cavity, but rises above it: the pupil is seen above the surface, enclosed in a black iris: as the corner is equally luminous in the internal part, the pupil is seen double. The gill coverts are smooth and slippery; the body upwards is broader than it is thick; but it takes a rounded form towards the tail; the sides are ornamented with five longitudinal dark brown stripes; they run quite to the tail, where the two outermost are connected by a transverse stripe, and the three middlemost by another: the lateral line is scarcely visible; the anus is nearer to the tail than to the head; the dorsal fin is small, and near the tail. All the fins, except the ventrals, are covered mostly with small scales; on the body, the scales are larger. It is viviparous, like the whale, and produces its young alive.

This singular fish is found in the rivers of Surinam. It multiplies fast, and is esteemed by the inhabitants as good food; it grows from six to ten inches in length.

Of the loach kind of fish, there are eleven different species; but finding our limits will not permit us to give the history of them all, we have inserted the above as being the most curious.

THE TELESCOPE FISH.

THE whole body of this fish, and the ground colour of the fins, are of a beautiful red, darker towards the back, and lighter towards the belly; the membranes of the fins are almost white, and the red rays shining through them have a very fine effect; the three white points of the tail form, to the idea, a trident, or a tulip: the head is short, but large; the mouth is small; and the nostrils single: the pupil of the eye is black; the iris yellow; the back is round; the lateral line nearer the back than the head: the scales are large, and the rays of the fins ramified. This beautiful fish is found in the fresh waters of China, and is supposed to be a variety of the gold fish.

THE WHITE BAIT.

THIS fish has a great similarity to the bleak, and during the month of June, appears in the Thames, near Blackwall and Greenwich. The usual length of this small species is two inches; the dorsal fin is placed near the head, so that, when suspended by it, the tail sinks down; the tail is forked and black on the tips. These small fry are usually caught for the purpose of bait for other fish. When fried with flour, they are reckoned a delicious viand by the lower order of epicures, who frequent the taverns contiguous to the places where they are taken.

No naturalist has yet determined to what particular fish this belongs, though all are agreed that it is the young of some species that resort here. Some have ascribed its origin to the shad; others to the sprat, the smelt, and the bleak. These fish, however, are all found in other streams, while the white bait is peculiar to the river Thames.

THE SAND-LAUNCE, OR EEL.

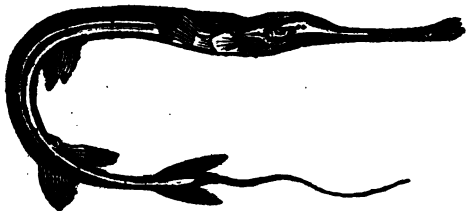
THE head of this fish is oblong, compressed sideways, and thinner than the trunk; the upper lip double; it has no teeth, but in the throat are two rugged bones, of an oblong shape, destined to retain food: the aperture of the gills is wide: the cheeks, sides, and belly, are of a silver colour; the nostrils are double, lying midway between the eyes and mouth; the eyes are small, having a black pupil within a silvery iris. The back is round, with a furrow destined to receive the long dorsal fin: the anus is nearer the end of the tail than the head; the lateral line goes straight along the middle of the trunk; but there is another near the back, and another near the bottom of the belly: the rays of all the fins are soft, and united by a thin membrane; they are simple in the dorsal and anal fins, and divided at the ends in the pectoral and tail, which last opens with a cleft.

This fish is found in the North Sea and the Baltic; and is frequently dug out of the sand near the British shores. The sand is its usual dwelling, from whence it derives its name; it lies sometimes a foot or two from the surface. It lives on water-worms, which it digs up with its sharp snout; it feeds also on the young of its own species, and some of about two inches long have been found in its stomach. It rarely comes to the surface of the water; but in fine weather it may be seen coiled up like a snake, with its head pressed into the sand. The voracious fishes are its destroyers, especially the mackerel. They spawn in May, laying their ova on the sands not far from the shore. They are dug out of the sands at the reflux of the tide, with hooks made on purpose; they are mostly used for bait, though sometimes eaten.

Some naturalists say they are thin and dry, and very indifferent food; while others assert that they are delicate eating. The Greenlanders eat them both fresh and dried, but more frequently bait their hooks with them. The scales of these fishes are very small and thin.

THE TRUMPET-FISH.

THE body of this fish is short and broad, narrower at the sides, and very much resembles a pair of bellows in shape; it is of a pale red colour: the head, which is broadish above, ends in a bent cylinder below; and the aperture of the mouth, which is small, is at the end of the long beak; the aperture is closed by the lower jaw, which shuts into the upper like the lid of a snuff-box: the nostrils are double, and lie near the eyes; the eyes are large, with a black pupil, and a pale red iris: the gill-covert is single; the aperture is large, and covers the membrane which lies underneath. This fish can hide its small ventral fins in a furrow which lies behind them: all the fins are of a grey colour. This fish haunts the Mediterranean sea: it is tender, well tasted, and easy of digestion; but, being very thin, it is generally sold with other small fish at a low price. As the fins are very small in proportion to the other parts, so that it cannot swim fast enough to avoid its enemies, Providence has given it a moveable serrated spine for its defence, which is the first ray in the dorsal fin; with this it will successfully defend itself against almost any fish, unless taken by surprise.

THE TOBACCO-PIPE FISH.

THIS species is known in the seas of both Indies and at Brazil. The head is very long, quadrangular, and adorned with rays; the aperture of the mouth is wide,

and in an oblique direction; the lower jaw is somewhat longer than the upper; the teeth are small; the tongue moveable; the nostrils double, and near the eyes, which are large, with a black pupil and silvery iris: the body is devoid of visible scales, flat in the front part, and rounded towards the tail: the lateral line has a straight direction: the anus is much nearer the tail-fin than the head; the belly long; the fins short, the rays mostly four-branched. This fish is brown, spotted with blue on the back; the sides and belly silvery; the fins are red.

It grows three or four feet long, living on small fry and lobsters; it is very plentiful, but lean, therefore only eaten by the poor.

THE NETTED EEL.



THE head and mouth of this beautiful species is small, without barbles: the eyes are near the upper lip, of a blue and white colour: the teeth stand apart from each other, and those in front are the longest: the body is variegated with black and white spots, like net work, and the dorsal fin extends the whole length of the back.

This species is from two to three feet in length, and was found near the coast of Tranquebar: but little is known of its natural history.

THE COMMON EEL.

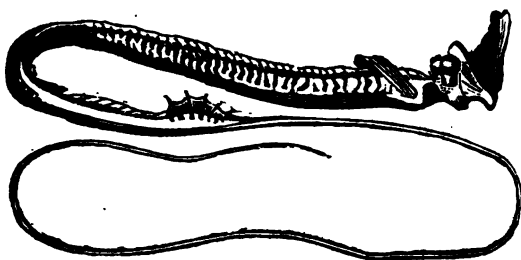
This evidently forms a connecting link in the chain of nature, between the serpents and fishes, possessing not only, in a great measure, the serpent form, but also many of their habits.

This is frequently known to quit its element, and to wander in the evening or night, over meadows in search of snails and other prey, or to other ponds for change of habitation. This will account for eels being found in waters that have not been in the least suspected to contain them. The usual haunts of eels are in mud, among weeds, under roots or stumps of trees, or in holes in the banks or the bottom of rivers: they are partial to still water, and particularly to such as is muddy at the bottom.

Eels are best in season from May to July, but may be caught with a line till September. When the water is thick with rains, they may be fished for during the whole day; but the largest and best are caught by night lines. The baits generally used, are wasp-grubs, dew-worms, minnows, and gudgeons.

The common eel seldom exceeds a foot in length: the head is compressed, and narrower than the body; the upper jaw is narrower than the under, and the body is cylindrical, with scales hardly perceptible.

THE CORDATED EEL.



THIS fish inhabits the West-Indian seas; its whole length is about thirty-two inches, of which the process at the end of the tail measures twenty-two; the body rich silvery; flexible part belonging to the snout, brown; fins and caudal process paler brown: the snout is connected to the back part of the head by a flexible leathery duplicature, which permits it to be extended so that the mouth points upwards, or to fall back so as to be received into a sort of case, formed by the upper part of the head; eyes close to each other, and with short columns of a clear chestnut-brown, with a coppery gloss: below the head on each side, is a considerable compressed semicircular space, the fore-part of which is bounded by the gill-cover, which seems to consist of a moderately strong membrane; the body gradually diminishes as it approaches the tail, which terminates in a process or string of enormous length, ending in a very fine point; the pectoral fins small, and situate behind the cavity on each side the thorax; the caudal fin has five spinous rays.

THE BUTTERFLY-FISH.

THE head is long, narrowed at the sides, and large: the eyes are large, prominent, with a black pupil, and orange-coloured iris; the mouth is large; the jaws are of equal length, with a row of very narrow teeth standing close to each other; the tongue is broad, but short: the gills wide; the cheeks are large, and of a silver colour: the back is round, and of a dark-green; the belly is short, but broad: the ground colour of the fish is a dirty green, with brown spots; there are some, however, whose principal colour is a clear blue. This fish inhabits the Mediterranean sea; and at Marseilles, Sardinia, and Venice, is common in the markets with other small fish. It attains to the length of six or eight inches; the flesh is lean, and therefore not much esteemed. It lives near the shores, among the rocks and weeds, and feeds on crabs and small shell-fish. Its scales are hardly visible. Some naturalists describe this fish as having two dorsal fins; while others say it has but one; this contradiction must arise from these fins being sometimes united by a membrane, and sometimes not.

THE DACE.

THIS fish has a lengthened body, small head, middling-sized scales, grey fins, forked tail, and the lateral line curved downwards; the fish is of a silver colour, except the back, which is brownish, and rounded; the pupil of the eye is black, iris yellowish, and near the organs of hearing and respiration: the aperture of the mouth is middle-sized; the coverings of the gills are two thin laminae: all the fins are white. This fish is found in the South of Germany, as well as in France, Italy, and England.

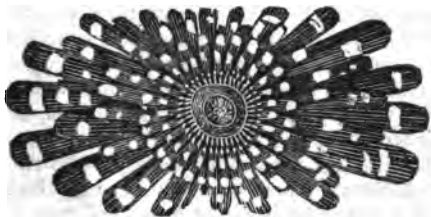
THE GREAT CUTTLE-FISH.

THIS curious and singular creature is furnished with eight arms, or claws, interspersed on the interior side with little round serrated cups, by the contraction of which, the animal lays fast hold of any thing that comes in its way: besides these eight arms, it has two others longer than the preceding, and also pedunculated: the mouth is situated in the centre, and is horny, and hooked like the bill of a parrot: the eyes are below, and surrounded with several silvery rings; they are as large as the eyes of a calf, but are very prominent, and rather resemble the eyes of the crab: the body is of a redish brown colour, nearly cylindrical; the belly below is equal, soft, smooth, oblong-round, of an ash and faint yellowish colour: about the middle of the upper part of the body, there is a fin, like those of fishes, composed of a softish cartilaginous substance, spread out widely on both sides, and decreasing towards the tail till it ends in a point, like the broad fins of the ray-fish: by means of this fin, it moves itself in swimming, having no other membrane for that purpose. From this pointed termination of the tail, the French call it the sea-spider: although it has scarcely any resemblance to the spider; but rather, with respect to the head, approaches to the shape of the star-fish: at any rate, they are very formidable animals.—With their arms and trunks they fasten themselves, to resist the motion of the waves. The females lay their eggs upon sea-weed and plants, in clusters, like bunches of grapes. Immediately after they

are laid they are white, and the males pass over and impregnate them with a black liquor, after which they grow larger, and resemble black grapes. On opening one of the eggs, the embryo cuttle is found alive.

The noise of the cuttle-fish, on being dragged out of the water, resembles the grunting of a boar. When the male is pursued by the sea-wolf, or other ravenous fish, he shuns the danger by stratagem. He squirts out a black liquor, by which the water becomes as black as ink, under shelter of which he baffles the pursuit of his enemy. This black liquor is accumulated in a particular gland: the Romans used it as ink; and it is said to be an ingredient in the composition of Indian ink. The back-bone of this animal is converted into that useful article of stationary called pounce. In hot climates these creatures are found of an enormous size.—The Indians affirm, that some have been seen two fathoms broad over their centre, and each arm nine fathoms long.—When the Indians navigate their little boats, they go in dread of them; and, lest these animals should fling their arms over and draw them under water, they never fail having an axe to cut them off. When used for food, they are served up in their own liquor, which from boiling, with the addition of nitre, becomes red. If taken into a dark apartment and cut open, it illuminates the whole place.

THE ESCHINUS, OR SEA-URCHIN.



THIS species of the sea-urchin is numerous; its shape is hemispherical oval, with ten winding avenues; the spaces between each are armed with strong prickles and warts. It inhabits the Southern Seas; and is valued as a nourishing and savoury food. Most of this species of fish have a great variety of beautiful tints and curious forms, many of which are highly valued in collections.

THE LOBSTER.



THE common lobster has a smooth thorax, short serrated snout, very long antennæ, and between them two shorter ones; the claws are close, and the fangs long, the greater tuberculated, and the lesser serrated on the inner edge; it has four pair of legs, and six joints in the tail; the tail fins rounded: the pincers of one of the lobster's large claws are furnished with knobs, and those of the other are always serrated. With the former it keeps firm hold of the stalks of submarine plants, and with the latter it cuts and minces its food very dexterously: the knobbed, or numb claw, as the fishermen call it, is sometimes on the right, and sometimes on the left side indifferently. It is more dangerous to be seized by them with the cutting claw than the other; but, in either case, the quickest way to get disengaged from the creature is to pull off its claw.

Like the rest of their tribe, they annually cast their shells.—Previously to their putting off the old one, they appear sick, languid, and restless; they acquire an entirely new covering in a few days; but during the time that they remain defenceless, they seek some lonely place, lest they should be attacked and devoured by such of their brethren as are not in the same weak situation. At the same time that they cast their shells, they change also their stomachs and intestines.

These animals are found on most of the rocky coasts of Great Britain. Some are caught with the hand, but the greater quantity in pots; a sort of trap formed like a wire mouse-trap, so that when the lobster gets in, there is no return: they are fastened to a cord sunk into the sea, and their place is marked by a buoy.—They were caught in such plenty on the coast of Northumberland, about the year 1769, that the sum paid for the annual exports from Newbiggen and Newton, by sea, amounted to near fifteen hundred pounds.

THE SOLDIER CRAB.

THE claws and feelers of this shell-fish are smooth and hairy, the left one largest; the tail is furnished with a hook, by which it secures itself in its lodging: they inhabit the empty cavities of turbinated shells, changing their habitation, according to their increase of growth, from the small nerite to the large whelk. Nature denies them the strong covering behind, which it hath given to others of this class, and therefore directs them to take refuge in the deserted cases of other animals. They crawl very fast with the shell on their back; and, at the approach of danger, draw themselves within the shell, and, thrusting out their larger claw, will pinch very hard whatever molests them. This is called the soldier, from the idea of its dwelling in a tent. It is very diverting to observe these animals when they have occasion to change their shell: the little soldier is seen busily parading the shore along the line of pebbles and shells which is formed by the extremest wave, still however dragging its old incommodious habitation at its tail, unwilling to part with one shell, even though a troublesome appendage, till it can find another more convenient. It is seen stopping at one shell, turning it, and passing it by; going on to another, contemplating that for a while, and then slipping its tail from its old habitation to try on the new; this also is found to be inconvenient, and it quickly returns to its old shell again: in this manner it frequently changes, till at last it finds one light, roomy, and commodious; to this it adheres, though the shell be sometimes so large as to hide the body of the animal, claws, and all. When this animal is taken, it sends forth a feeble cry, endeavouring to seize the enemy with its nippers; which, if it fastens upon, it will sooner die than quit the grasp.

THE CRAB.

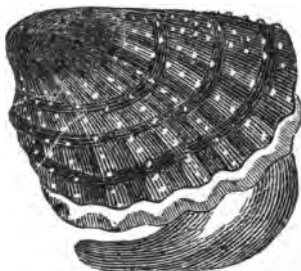
THE common crab has three notches on the front: five serrated teeth on each side; the claws elevated; the next joint toothed; the hind feet subulated; the colour is a dirty green, but red when boiled. It inhabits all our shores, and lurks and burrows under the sand. It is sold, and eaten by the poor of our capitals.

There are several varieties of this kind of fish, each of which annually sheds its shell, like the lobster.

THE SHRIMP AND PRAWN.

SHRIMPS possess long slender feelers, and between them two projecting laminæ: the claws have a single, hooked, moveable fang; they have three pair of legs; seven joints in the tail; the middle caudal fin subulated, the four others round and fringed; with a spine on the exterior side of each of the outmost. These animals inhabit the shores of Britain in vast quantities, and are the most delicious of the genus.

The prawn is not unlike the shrimp, but exceeds it in size, being at least three times as big; and in colour, having, when boiled, the most beautiful pink tint all over its body. The flesh is better tasted than that of the shrimp, and both seem to be the first attempts which nature made when she meditated the formation of the lobster.

THE PRICKLY-COCKLE.

THE form of the cockle-shell is slightly heart-shaped, with spinous ribs; it inhabits the European seas, and is of a white or tawny colour, with white bands; the grooves deep, about eighteen, and wrinkled near the hinge; the prickles grow larger from the middle towards the circumference.

The cockle is represented in the above figure with the foot, or hook, protubed, in order to take its nourishment: and by help of the elastic power of which it can jerk itself from place to place; and in this manner, when it happens to be left by the tide, it regains its proper element. If touched ever so gently when lying in this attitude of evident enjoyment, it withdraws the hook, and closes in the twinkling of an eye. Lobsters and crabs lie in wait for this opportunity of thrusting in a leg or a claw, whereby they kill and secure the cockle for food; but it often happens that the younger ones of those crustaceous animals, not being sufficiently hardened or matured to withstand the violent snapping of the shells on their close, lose the limb; and herein we see the abundant wisdom of Providence, in bestowing on them the power of renewing their members when cut off; and, but for which, the whole race would soon become extinct, since this mode of procuring food subjects them to eternal warfare.

THE OYSTER.

THIS genus comprehends the two extensive families of pectens, or scallops, and oysters; and there are no less than a hundred and thirty-six species in the whole. In both divisions the animal is well known as a nutritive and valuable food. Both scallops and oysters are found plenti-

fully in the Indian Seas, the Mediterranean, the American Ocean, and in the European Seas, where they constitute a considerable article of commerce. The scallops grow a sort of coarse byssus; and have the agility of leaping full half a yard out of the sea, at which time they open their shells, and spout out the stale water within them; after which they rapidly sink, taking in fresh water, and closing their shell with a loud snap, which betrays their beds to the watchful fisherman.

The difference between the oyster and the scallop is obviously impressed by the hand of nature; but its movements, both in the water and out, is still more contrary; for when left dry by the tide, by a sudden closing of its valves, assisted by the foot, it has the power of springing four or five inches at a jerk, repeating this motion in order to regain its element. In the water, it has the power of raising and sustaining itself near the surface, turning about in various directions, and on any alarm, suddenly closing the valves and sinking to the bottom.—The oyster, on the contrary, is unfurnished either with a foot or with byssus; and its powers of motion consist only in turning either the flat or convex side upwards or downwards; and even to effect this, the animal is said to take advantage of the force of the ebbing or flowing of the water to assist it.

The oyster excludes its young completely formed; and by the help of a magnifier, the joinings of the little infant shells can be distinctly seen, with all their parts as perfect as the parent animal, though appearing to the naked eye only as a minute point.



NATURAL HISTORY

OF

SERPENTS, REPTILES, &c.



THE RATTLE-SNAKE.

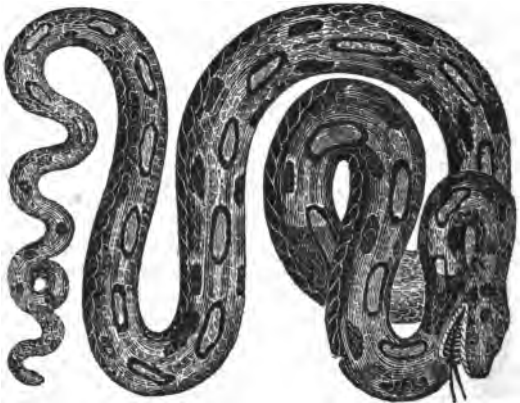


THE colour of the rattle-snake, which is bred both in North and South America, but in no part of the old world, is a yellowish brown above, marked with broad transverse bars of black. Both the jaws are furnished with small sharp teeth, and the upper one has four large incurvated and pointed fangs; at the base of each is a round orifice, opening into a hollow that appears again near the end of the tooth in the form of a small channel; these teeth may be raised or compressed. When the animals are in the act of biting, they force out of a gland near the roots of the teeth, the fatal juice; this is received into the round orifice of the teeth, conveyed through the tube into the channel, and from thence, with unerring direction, into the wound. The tail is furnished with a rattle, consisting of joints loosely connected; the number of these is uncertain, depending in some measure on the age of the animal, being supposed to increase annually by an additional joint. The young snakes, or those of a year or two old, have no rattle at all.

As the tail of these snakes, which are the most dreaded of all serpents, keep rattling upon the slightest motion, strangers are thus providentially warned of their approach. In fine weather, the notice is always given, but not always in rainy weather; this inspires the Indians with a dread of travelling among the woods in wet seasons. In addition to this circumstance, the odour of the rattle-snake is so extremely foetid, that when it basks in the sun, or is irritated, it is often discovered by the scent before it is either seen or heard. Horses and cattle frequently discover it by the scent, and escape to a distance; but when the serpent happens to be to the leeward of their course, they sometimes encounter its venom.

Rattle-snakes are viviparous, producing their young, generally about twelve in number, in the month of June, and by September these acquire the length of twelve inches. It has been well attested that they adopt the same mode of preserving their young from danger as that attributed to the common viper, receiving them into their mouth and swallowing them.

THE BOA.



THE ground colour of the body of this animal, which is the largest and strongest of the serpent race, is yellowish grey, on which is distributed, along the back, a series of large chain-like, reddish brown, and sometimes perfectly

red variations, with other small and more irregular marks and spots. They are easily distinguished from other serpents by the under surface of the tail being covered with undivided plates, like those on their belly; and their body not being terminated by a rattle. There are three species, natives of Africa, India, the larger Indian islands, and South America, where they chiefly reside in the most retired situations, in woods and marshy retreats.

The great boa is frequently from thirty to forty feet in length, and of a proportionate thickness; but, happily for mankind, the rapacity of these creatures is often their own destruction; for whenever they seize and swallow their prey, they seem like surfeited gluttons, unweildly, stupid, helpless, and sleepy; they at the same time seek for some retreat, where they may lurk for several days together, and digest their meal in safety. The smallest effort will then destroy them; they scarcely can make any resistance; and, equally unqualified for flight or opposition, even the naked Indians do not fear to assail them. But it is otherwise when this sleeping interval of digestion is over: they then issue, with famished appetites, from their retreats, and with accumulated terrors, while every animal of the forest flies from their presence. They never, however, bite from any other impulse than that of hunger, and when they do, their bites are destitute of venom.

THE COMMON ENGLISH SNAKE.

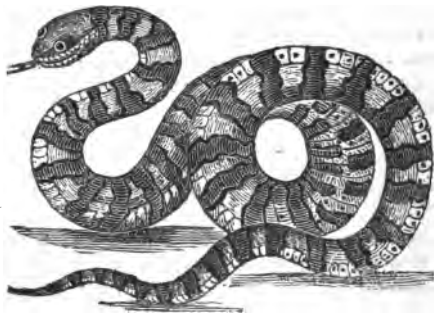
THE ringed, or black snake, which is the most common and largest of the English serpents, sometimes exceeds four feet in length. The neck is slender; the middle of the body thick; the back and sides covered with small scales; the belly with oblong, narrow, transverse plates: the colour of the back marked with two rows of small black spots, running from the head to the tail; the plates on the belly are dusky; the scales on the sides are of a blueish white; the teeth are small and serrated, lying on each side of the jaw, in two rows. The whole species is perfectly inoffensive, taking shelter in dunghills, and among bushes in moist places, whence they seldom remove, unless in the midst of the day, in summer, when they are called out by the heat to bask themselves in the sun. If attacked, they at first endeavour to escape, but

if much pressed, they begin to hiss, and put themselves in a threatening position, though incapable of doing mischief.

These snakes conceal themselves in winter, and become nearly torpid; they re-appear in spring, and then they uniformly cast their skins. This is a process that they also seem to undergo in the autumn.

The female deposits her eggs in holes fronting the south, near stagnant waters; but more frequently in dunghills, in the form of a continued chain of ova, to the number of from twelve to twenty: these are about the size of the eggs of the blackbird, of a whitish colour, and covered with a parchment-like membrane. The young ones are rolled up spirally within the middle of the fluid, which greatly resembles the white of a fowl's egg. They are not hatched till the spring following the time when they are laid.

THE ANNULATED SNAKE.



THE ground of this snake is white, with brown transverse bars, which are straight and distinct on the back, but run into one another on the belly. The tail is slender, and has two ranges of imbricated scales on its under surface. This animal is a native of South America, and when irritated, or preparing to bite, raises up the fore part of its body, and carries its head in a bending position.

Of this species there are a great number of elegant varieties, many of which are figured in the elaborate work of Seba, particularly the large annulated snake of Surinam.

THE AQUATIC VIPER.

THIS species is a native of India, frequenting wet, swampy fields, and commonly reckoned a water snake: its length is about two feet nine inches; circumference, three inches and a half: head rather broad, somewhat depressed, and laterally compressed; its body is covered with large scales, gradually diminishing towards the tail, which is eleven inches in length, slightly carinated, tapering very gradually, and terminating sharply. Head dusky; rest of the animal yellowish brown, with numerous round black spots, joined by yellow fillets regularly disposed in oblique rows, a few scales of light yellow being interspersed; abdomen, yellowish white.

One of these vipers was caught in the lake of Ankapilly, in one of the traps employed for catching eels, and by several experiments made with a stick in trying to provoke it, it did not either hiss or snap; neither was it provoked to bite a chicken, though pecked several times by the animal. While it lay coiled up, a chicken, properly secured, was laid upon it; but it continued quiet, without attempting to wreath round the chicken, or otherwise to annoy it; and when the bird fluttered and struggled to get loose, the snake, as if afraid, crept away. It should be remarked, however, that in the course of this last experiment, the viper threw up a large fish, which appeared to have been but a short time in its stomach; so that its forbearance might, in some measure, be owing to not being hungry; a circumstance that suggested caution against hasty decision. But it certainly is not venomous, and does not appear to be very irascible. It is regarded by the natives as harmless.

THE EGYPTIAN VIPER.



THIS is said to be the official viper of the Egyptians, and is by some supposed to be the asp of Cleopatra, by the bite of which that high-spirited princess determined to die, rather than submit to be carried to Rome in order to grace the triumph of Augustus. It is imported in considerable quantities every year to Venice, for the use of the apothecaries in the composition of treacle, and for other purposes. It is abundant in Egypt; and is found in other parts of Africa, as well as in Asia. It is from twenty inches long, to three feet, and upwards, variegated with rich chestnut brown spots or bands, on a lighter brown ground; the scales are remarkably short, close, and hard; the eyes are vertical; the head compressed, and covered with very minute dark brown scales, and redish stripes. It is very poisonous, but not always fatally so.

The variegated viper, so named from the mixture of colours on its body, which is mottled with white, brown, and grey; the sides and belly are pale yellow; and its form and size is much the same as the preceding. It is a native of America, but not poisonous.

THE INTESTINE VIPER.

So named from its lurking in secret and hidden places for its prey. It is a small species, inoffensive to man, and devoid of poison. Its prey is insects, lizards, frogs, toads, and mice. The ground colour of its body is a redish brown, mottled and variegated with white transverse bands, and narrow longitudinal lines on the back and sides. It is a native of Africa, and found plentifully on the coast of Guinea.

THE HORNED VIPER.

THE cerastes, or horned viper, which commonly grows to the length of about a foot or fifteen inches, but sometimes more than two feet, is distinguished by a pair of horns, or curved processes, situate above the eyes, and pointing forward: these horns have nothing analogous in their structure to the horns of quadrupeds, and are by no means to be considered in the light of either offensive or defensive weapons; they are moveable, and about one sixth of an inch long.

The head of the cerastes is flattened; the muzzle thick and short; the eye yellowish green: the hind part of the head is narrower than the part of the body to which it is attached; the scales of the head are of the same size with those on the back, or only a little less; and all the scales are oval, with a longitudinal ridge. The general colour of the back is yellowish, with irregular spots of different degrees of darkness, in form of transverse bands; the under surface of the body is brighter. The cerastes inhabits the greatest part of the eastern continent, especially the desert sandy part of it. It abounds in the three Arabias, and in Africa.

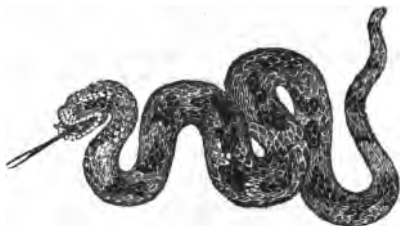
This animal can endure hunger and thirst much longer than most serpents; some naturalists assert, that it can exist five years without nourishment.—But, though able to live long without food, these animals are extremely voracious, and attack small birds, quadrupeds, and rep-

tiles with great eagerness. Their skins are capable of very great extension, and they can swallow food till increased to twice their ordinary size; but as their digestion is extremely slow, they become when gorged, quite torpid and motionless, in which situation they are very easily killed.

THE LIFE-CONSUMING VIPER.



THIS venomous serpent well deserves the above name; and is most deservedly dedicated to one of the fates, on account of the violent poison which distils from its murderous fangs. It is a native of the burning zone of Africa, and of the warm regions of South America; it is also found in the island of Ceylon, and in the remote provinces of Asia. The ground colour is a silvery white, variegated with black irregular spots and blotches: the head is broad, and the mouth large and blunt; the eyes like drops of pearl, surrounded with a green iris; the head cordated, with quadruple rows of transverse white bead-like lines, passing behind the eyes, on a black ground; the scales are varied, some large and shield-formed, others small and pointed; all remarkably strong and close set. This is a most dangerous and formidable serpent, whose poison, though not so rapid in its effects as some, yet causes a stupefaction of the mental faculties, a wasting of the flesh by incurable consumption, and finally death.

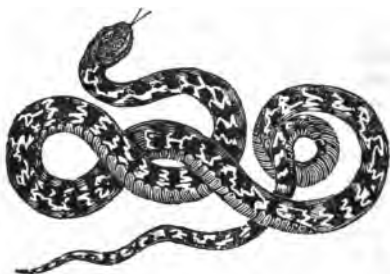
THE COMMON EUROPEAN VIPER.

THE common viper is found in most countries of the ancient world; in the East Indies it is also to be met with, with only very slight variation from the individuals of Europe; and it is even able to support the vicissitudes of very cold climates, being found in Sweden, where its bite is nearly as dangerous as in the warmer regions of Europe. It is likewise found in Russia, and in several parts of Siberia, where it is very numerous, as the superstitions of the people deter them from endeavouring to destroy this noxious reptile, because that they conceive some terrible disaster will follow the attempt.

Vipers crawl slowly at all times, and in general only attack such smaller animals as are their usual food. They never willingly attack man or the larger animals, except when wounded, trampled upon, or irritated, when they become furious, and are apt to bite severely. From the firmer manner in which their spine is articulated, they are unable to turn or twist themselves so much as most other serpents, being only able to turn the head with any considerable degree of agility: owing to this circumstance, they are easily taken.—For this purpose, some persons use a forked stick, to fix the viper by the neck; and then, seizing it by the tail, throw it into a bag. Others, holding down its head with the end of a stick, take it fast in the left hand by the neck; and, while the animal makes ineffectual efforts to defend itself, with its mouth wide open, cut out its poisonous fangs with a pair of scissors or a knife; the viper, after this, is incapable of doing injury, and may be handled with perfect safety. The English viper-catchers have the boldness to seize them suddenly by the neck, or even by the tail, with their hands; and holding them with a firm grasp, the animal is altogether incapable of turning itself sufficiently to bite the hand that holds it fast.

The length of the common viper seldom exceeds two feet, though sometimes they are found above three: the ground colour of their belly is of a dirty yellow; that of the female is deeper: the back is marked the whole length with a series of rhomboid black spots, touching each other at the point; the belly entirely black. It is chiefly distinguished from the common-ringed snake by the colour, which in the latter is more beautifully mottled, as well as by the head, which is thicker than the body; but particularly by the tail, which in the viper, though it ends in a point, does not run tapering to so great a length as in the other; when, therefore, other distinctions fail, the difference of the tail can be discerned at a single glance. These animals are found in many parts of our own island, particularly in the dry, stony, and chalky counties. It is extremely difficult to kill this animal. It will exist for three or four hours, or longer, in spirits of wine; yet, tobacco, and especially its essential oil, proves speedily fatal to them.

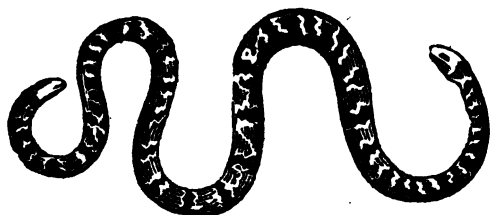
THE FATAL VIPER.



THE head of this animal is short and round; the mouth large and wide, armed with four curved teeth, two in each jaw; the eyes darting fire; and its bite inflicting cruel and inevitable death. It has also the faculty of erecting its scales at pleasure, or when irritated, and of closing them again with a rattling noise. A border of silver-white scales surrounds the mouth; the tongue is fleshy and forked, which the creature can protrude to a great length when offended; at which time it also shews its teeth in a menacing posture, like a snarling dog, and

thus it can shew or conceal its fangs at pleasure. The scales on the upper part of the body are elegantly speckled with pale yellow, cinerous grey, black, brown, and white, glistening most superbly in the sun. It is found in South America, and in the island of Ceylon; it will attack man or beast with great fury, erecting its crest, and darting forward with singular rapidity and courage. The male is deeper coloured than the female, and seems to have a larger body and a more slender tail. The general length of this snake seems to be about four or five feet, and the tail long in proportion to the body.

THE AMPHISBÆNA, OR BLIND SNAKE.



THIS species grows usually to the length of one or two feet, of which the tail never exceeds an inch, or an inch and a quarter; the eyes are exceedingly small, and covered in such a manner by a membrane, as to be hardly perceptible; from which circumstance, it has been called the blind serpent; the top of the head is covered by six large scales, in three rows of two each; and the body is entirely covered with smooth scales of an almost square form, arranged in regular transverse rings.

This animal is found in India, particularly the isle of Ceylon; and likewise in South America. Its habits are in a great measure unknown; but it feeds on earth worms, beetles, and various insects; it is particularly fond of ants; which, in numberless legions, often destroy all before them, leaving every thing desolate, as if consumed by fire. Having the power of advancing or withdrawing itself without injury, in consequence of its structure, this serpent is peculiarly fitted for penetrating into the subterraneous retreats of ants, worms, and other insects; and is able to dig deeper than any other serpent, its skin being very hard, and its muscles very strong.

THE EGYPTIAN ASP.



THIS animal is about three feet in length; the head is rather large, and covered with small carinated scales, the body with larger, of similar structure; the colour is pale rufous grey; and along the upper parts are three longitudinal ranges of deep rufous spots, bordered with black, and which unite or become confluent towards the tail, in such a manner as to exhibit the appearance of a zigzag band, resembling in some degree that of the common viper; the under parts are of a dusky colour, marbled with dull yellow; in the structure of its fangs it resembles the viper, and is said to be equally poisonous; the nose is terminated by an erect wart-like excrescence.

This creature preys by smell, and feeds on rats, mice, lizards, frogs, toads, &c.—Its bite is cured by volatile alkaline spirits, particularly that preparation called *cau-de-luce*; and even by foetid spirit of tartar.

THE GREEN LIZARD.

THE colouring of this species is seen in its greatest brilliancy about the beginning of spring; when, after having thrown off its old covering, it exposes its new skin, with all its bright enamelled scales, to the genial warmth of the sun's rays, which, playing on the scales, gild them with undulating reflections: the upper parts of the body are of a beautiful green, more or less variegated with yellow, grey, brown, and even sometimes with red; the under parts being always more of a whitish colour: the colours of this species are subject to variety, becoming pale at certain seasons of the year, and more particularly after the death of the animal. It is chiefly in the warm coun-

tries that it shines with all its superb ornaments, like gold and precious stones. In these regions it grows to a larger size than in more temperate countries, being sometimes found thirty inches in length.—The inhabitants of Africa eat the flesh of this animal.

The green lizard is by no means confined to the warmest countries of both continents: it is found likewise in temperate regions, though it is there smaller and less numerous. It is not even unknown in Sweden, and in Kamtschatka; and in both countries, in spite of its beautiful appearance, it is looked on by the inhabitants with horror, from some strange superstitious prejudices.

THE WARTY LIZARD.



THIS animal is six or seven inches in length, and entirely covered, except on the belly, with small warts. The under parts are of a bright yellow colour, and the upper mostly of a black brown, spotted with black. It is very common in this country, where it resides altogether either in the water, or in very damp places, and its tail being flattened perpendicularly, serves it as a rudder in swimming. It is usually seen crawling along the bottom, but it now and then rises, with a wriggling motion, to the surface.

Being never seen in winter, these lizards are supposed to retire into holes or mud, and become torpid. They deposit their spawn towards the end of May or beginning of June, in small clusters, consisting of several palish yellow-brown globules included in surrounding gluten. While young, they are furnished with fins on each side of the breast, which fall off when the animals attain a perfect state.

These animals, like many other reptiles, change their skins at certain periods; which operation is generally performed at the end of every fortnight or three weeks:

THE MONITOR LIZARD.

THE monitor, or monitory lizard, is one of the most beautiful of the whole tribe, and is also one of the largest; sometimes measuring not less than four or five feet from the nose to the tip of the tail. Its shape is slender and elegant, the head being small, the snout gradually tapering, the limbs moderately slender, the tail laterally compressed, and insensibly decreasing towards the tip, which is very slender and sharp. Though the colours of this lizard are simple, yet such is their disposition, that it is impossible to survey their general effect without admiration. In this respect, however, the animal varies, perhaps, more than most others of its tribe; hence the many varieties quoted, which chiefly consist in the distribution of the colours; it is, however, most commonly black, with the abdomen white; the latter colour extending to some distance up the sides, in the form of several pointed bands; besides which the whole body is generally ornamented by several transverse bands, consisting of white annular spots; while the head is marked with various streaks of the same colour, the limbs with very numerous round spots, and the tail with broad transverse bands. In others, the spots forming the lateral bands, are simple, instead of annular; and in others, the annulio, or white rings, are themselves composed of small white spots, which are likewise often scattered here and there over the black ground colour; which, in some, instead of being black, is of a deep brown. All, however, agree so far in the general disposition of the variegations, that it is not easy to mistake the species for any other.

This elegant animal is a native of South America, where it frequents woody and watery places; and, if cre-

dit may be given to the reports of some authors, is of a disposition as gentle as its appearance is beautiful. It has even gained the title of monitor, from its pretended attachment to the human race; and it has been said that it warns mankind of the approach of the alligator by a loud and shrill whistle.

THE TOAD.

THIS animal, which is easily recognized by its livid appearance, and sluggish and disgusting movements, is, in figure, nature, and appetites, like the frog. In Europe it is of a considerable size, the smallest individuals measuring from four to six inches in length. Its eyes are remarkably beautiful, having a brilliant redish gold-coloured iris surrounding the dark pupil, and forming a striking contrast with the remainder of its body.

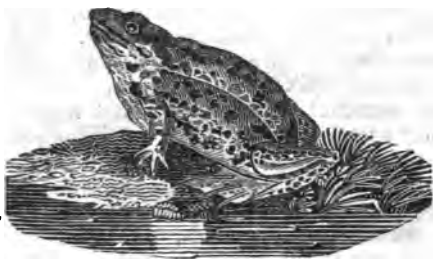
These animals are so extremely numerous in Carthage, and Porto Bello, in America, that in rainy weather, not only all the marshy grounds, but the gardens, courts, and streets, are almost covered with them; so much so, that many of the inhabitants believe that every drop of rain is converted into a toad. If it happens to rain during the night, all the toads quit their hiding places, and then crawl about in such numbers, as almost literally to touch each other, and hide the surface of the earth; on such occasions it is impossible to stir out of doors without trampling them under foot at every step.

When irritated, this creature emits from various parts of its skin a kind of frothy fluid that, in our climate, produces no further unpleasant symptoms than slight inflammation, from its weakly acrimonious nature. It is persecuted and murdered wherever it appears, on the supposition merely that, because it is ugly it must in consequence be venomous; and its reputation as a poisonous animal obtained for it among the superstitious so many preternatural powers, that the reputed dealers in the magic art are reported to have made use of it in their compounds.

The female toads deposit their spawn early in the spring, in the form of necklace-like chains, or strings of beautifully transparent gluten, three or four feet in length, inclosing the ova in a double series throughout. These have the appearance of so many jet-black globules; they

are, however, nothing more than the larvæ, or tadpoles, laying in a globular form. These break from their confinement in about a fortnight, and afterwards undergo changes very similar to the tadpoles of the frog. They become complete about the beginning of autumn, when the young animals are frequently to be seen in immense multitudes.

THE FROG.



THE common frog is known throughout Europe, being almost every where seen in moist situations, or wherever it can command a sufficient quantity of insects, worms, &c. on which it feeds. In colours it varies considerably, but its general tinge is olive brown, variegated on the upper parts of the body and limbs with regular blackish spots; those on the limbs being mostly disposed in a transverse direction; beneath each eye is a longish mark, or patch, reaching to the setting on of the fore legs, and which seems to form one of its principal distinctions.

It is generally in the month of March that the frog deposits its ova, or spawn, consisting of a large heap or clustered mass of gelatinous transparent eggs, in each of which is imbedded the embryo, or tadpole, in the form of a round black globule. The spawn commonly lies more than a month, or sometimes five weeks, before the young or tadpoles are hatched from it; but during this period each egg gradually enlarges in size, and a few days before the time of exclusion, the young animals may be perceived to move about in the surrounding gluten.

The form of the frog is light and elegant, and its appearance lively; the limbs finely calculated for the pecu-

lar motions of the animal, and the hind feet strongly webbed to assist its progress in the water, to which it occasionally retires during the frosts of winter, when it lies in a state of torpidity, either deeply plunged in the soft mud at the bottom of stagnant waters, or in the hollows beneath their banks, till it is awakened from its slumber by the return of spring.

THE CHAMELEON.



CHAMELEONS are found of various sizes, but are seldom above fourteen inches long, of which the tail is seven; and the length of the legs, including the toes, is about three inches. It is found in all the warm countries, both of the old and new worlds, in Mexico, in Africa, at the Cape of Good Hope, in Ceylon, Amboyna, &c. The whole skin of the chameleon is strewed over with little knobs, like shagreen; these are extremely smooth, and more remarkable on the head, (which is particularly flat on the top and both sides), and are surrounded with minute, and almost imperceptible grains: the nostrils are placed at the tip of the muzzle, which is somewhat rounded: the mouth is wide, and the bones of the jaws denticulated, so as to represent small teeth: the tongue is of a very extraordinary form; being composed of white solid flesh, about ten lines long, and three broad, round, a little flattish towards the end, hollow, and open, somewhat like the end of an elephant's trunk; and with this instrument it seizes insects, on which it subsists, with wonderful quickness.

Whether climbing slowly along the branches of trees, or concealing itself below the leaves, in expectation of

insects, or walking deliberately on the ground, the chameleon is always extremely ugly in its appearance, having neither agreeable proportions, beauty of form, nor elegant movements, to please the eye of the observer, so that no one can attempt to catch, or even to touch it, without disgust. Of the changes of colour we must now speak more particularly.

When at rest, and in the shade for some time, the grains, or little eminences on the skin, are sometimes pale red, and the soles of the feet are white, slightly tinged with yellow; this colour changes, when exposed to the light of the sun: that part of the skin on which the rays of the sun fall, is frequently of a brownish grey, while the unilluminated part is of a beautiful fawn colour, produced by the mixture of pale yellow, which the granular eminences assume, joined with a clear red, that then appears on the plain skin between the grains: this splendid colouring is usually distributed in blotches, between which the grains appear mixed with blue and greenish, and the flat skin is redish: at other times, the whole skin seems of a beautiful green, spotted with yellow. When touched, it often becomes suddenly spotted all over with pretty large blackish blotches, mixed with some green; but it is now thoroughly ascertained, that it by no means assumes the colours of the bodies which are around it; and that those which it accidentally presents are not extended over the whole of its body, as was formerly believed.



NATURAL HISTORY

OF

INSECTS.



THE GIGANTIC COCKROACH.



As insects possess the various powers of creeping, flying, and swimming, there is scarcely any place, however remote and secure, in which they are not to be found; and, therefore, upon casting a slight view over the whole insect tribe, just when they are supposed to rouse from their state of annual torpidity, when they begin to feel the genial influence of spring, and again exhibit new life in every part of nature, their numbers and their varieties seem to exceed all powers of calculation, and they are certainly too great for description; but from the similitudes of the forms, manners, and propagation, of several of them, the extensive description has been easily compressed, and a separate history for each species rendered totally unnecessary.

The above insect is the largest of its species, and near the size of a hen's egg. It is a native and plague of the warm parts of Asia, Africa, and South America. This, and indeed all the other species of cockroaches, are a race of pestiferous beings, equally noisome and mischievous,

to both natives and strangers. These nasty and voracious insects fly out in the evenings; they plunder and corrode all kinds of victuals, drest and undrest; and damage all sorts of clothing; every thing made of leather; books, paper, and various other articles: they fly into the flame of candles, and sometimes into the dishes; are very fond of ink and of oil, into which they are apt to fall and perish: in this case they soon turn it most offensively putrid, so that a man might as well sit over the putrid body of a large animal, as write with ink in which they have died. They often fly into person's faces or bosoms, and their legs being armed with sharp spines, the pricking excites a sudden horror not easily described. In old houses they swarm by myriads, making every part filthy beyond description, where they harbour, which in the day time is in dark corners, behind all sorts of clothes, in trunks, boxes, and, in short, every place where they can lie concealed. In old timber and deal houses, when the family is retired at night to sleep, this insect, among other disagreeable properties, has the power of making a noise which very much resembles a pretty smart knocking with the knuckle upon wainscoting; in the West Indies it is therefore frequently known by the name of the drummer.

THE SURINAM BUG.



THIS genus is divided into different sections, the whole number of species being above one hundred.—The common bed-bug has no wings; but the field bugs have all wings, and inhabit plants as various as their shape and

colour. The Surinam bug, thus named from Madame Merian, who first discovered this frightful insect at Surinam, and figured it from the life in her inimitable collection, from which our figure is taken, is the largest species of the cimex or bug tribe, measuring three inches and a half from head to tail, and six inches from wing to wing. It is of a rich brown colour, armed with a single sharp spine on the head, and another at the anus; the eyes are black, and very prominent; it has two large dark brown spots on the breast, about the size of peas; two others more oblong behind; and others of various forms and sizes on the fore-legs: the elytra are marked like network with white, and are very thick and strong; the interior wings are full of fibres, and of a delicate straw colour. —This is not only the largest, but the most destructive and voracious of the genus, attacking and devouring, in its creeping state, toads, frogs, lizards, aquatic insects, and even fish; and in its winged state, preying upon reptiles, birds, and the larger animals, and even on the weaker individuals of its own family.

THE MOLE CRICKET.



THIS little creature, which is a complete representative of the mole among the insect tribes, is, for an insect, very large, being two inches and a half in length, and three quarters of an inch in breadth. Its fore feet are broad, and strong, and, in their formation and position, bear a great resemblance to the fore-feet of that animal: they are used for precisely the same purpose as those of moles, to burrow under the surface of the ground, where the insect commonly resides; and so expertly does it use them, that it can penetrate the earth with even greater expedition than the mole.

The female forms a cell of clammy earth, about the size of a hen's egg, closed up on every side, and within as large as two hazel nuts. The eggs, amounting to nearly

a hundred and fifty, are white, and about the size of caraway comfits; they are carefully covered, as well to defend them from the injuries of the weather as from the attacks of one of the species of black-beetles, which often destroys them. The female places herself near the entrance of the nest, and whenever the beetle attempts to seize its prey, the guardian insect catches it behind, and bites it asunder.

These insects, at the approach of winter, remove their nest to so great a depth in the earth as to have it always lower than the frost can penetrate. When the mild season comes on, they raise it in proportion to the advances of that favourable time, and at last elevate it so near to the surface, as to render it susceptible both of air and sun-shine; and if the frost return, they again sink it to its proper depth. A method very similar to this is practised by the ants with their nests.

THE COMMON LOCUST.



THIS insect is about three inches long, and has two horns, or feelers, an inch in length: the head and horns are of a brownish colour: it is blue about the mouth, and also on the inside of the larger legs: the shield that covers the back is greenish; the upper side of the body brown, spotted with black, and the under side purple; the upper wings are brown, with small dusky spots, with one larger at the tips; the under wings are more transparent, and of a light brown tintured with green, with a dark cloud of spots near the tips.

These noxious insects fly in such numbers, as to seem at a distance like a dark cloud, which, as it approaches, almost excludes the light of day. It often happens that the husbandman sees them pass over without doing him any injury; but in this case they only proceed to settle on some less fortunate country. Wherever they alight, they make dreadful havoc among the vegetation. In the tropical climates their presence is not attended with such destructive consequences as in the southern parts of Eu-

rope; for in those, the vegetative power is so strong and active, that an interval of only a few days will sometimes repair all the damage: but in Europe their ravages cannot be obliterated till the succeeding year.

The crested locust differs from the preceding, and is an inhabitant of the East: it is a highly beautiful animal, being of a bright red, with the body annulated with black, and the legs varied with yellow; the upper wings are marked with variegations of dark and pale green; the lower with transverse wavy streaks. The length of this species, from head to tail, is about four inches: and the expanse of wings from tip to tip, when fully extended, hardly less than seven inches and a half.

THE MEMBRANOUS LOCUST.



THIS uncouth insect inhabits the deserts of Uria: it is of a pale yellowish colour, with tailed wings; its head is inflected, and armed with jaws and feelers; the hind legs are formed for leaping; and it has double claws on all the feet. They reside chiefly under ground, and are six-footed, voracious, and active, and feed on plants and herbs. Of this tribe of locusts, there are upwards of two hundred species, and are used as an article of food by the natives of Africa and India.

THE HOUSE CRICKET.

THIS is an inhabitant of almost every house; its wings are tailed, and longer than the wing-cases: the body is of a light green colour, shaded with brown; and, like the preceding, is provided with six feet. It is said to delight in

new-built houses; being, like the spider, pleased with the moisture of walls; and, besides, the softness of the mortar enables them to burrow and mine between the joints of the bricks or stones, and to open communications from one room to another; yet they are particularly fond of kitchens and bakers' ovens, on account of their warmth; residing, as it were, in a torrid zone, they are always lively and merry; and a good Christmas fire is to them like the heat of the dog-days. Though they are frequently heard by day, yet their natural time of motion is only in the night. As soon as it grows dusk, their chirping increases, and they come running forth, and are from the size of a flea to that of their full stature. As one would suppose them, (from the situations which they inhabit), they are of a thirsty race, and shew a great propensity for liquids, being frequently found drowned in pans of water, milk, broth, or the like. Whatever is moist, they affect; and therefore often gnaw holes in wet woollen stockings and aprons that are hung to the fire. These crickets are not only very thirsty, but very voracious; for they will eat the scummings of pots, yeast, salt, and crumbs of bread; and any kitchen offal or sweepings. In summer evenings they have been observed to fly out of the windows and over the roofs of houses: this feat of activity accounts for the sudden manner in which they often leave their haunts, as it does for the method by which they come to houses where they were not known before. It is remarkable that many sorts of insects seem never to use their wings but when they have a mind to shift their quarters and settle new colonies. When in the air, they move in waves or curves, and like woodpeckers, opening and shutting their wings at every stroke, and are always rising and sinking. When they increase to a great degree, they become noisome pests, flying into candles, and dashing into people's faces, but may be blasted with gunpowder discharged into their crevices and crannies. Cats catch house crickets, and, playing with them as they do with mice, devour them. Crickets may be destroyed, like wasps, by phials half filled with beer, or any liquid, and set in their haunts; for being always eager to drink, they will crowd in till the bottles are full. A popular prejudice, however, frequently prevents their being driven away and destroyed: the common people imagine that their presence brings a kind of luck to the house while they are in it, and think it would be hazardous to destroy them.

THE GREAT AMERICAN SPIDER.

THIS is one of the largest species of the tribe. Its back is covered with a hard, thick, brown coat, hollowed at the sides, and cleft transversely across the middle, as if it had a hole in that place: the head is small, and with difficulty distinguished from the corselet; the mouth is furnished with brown, hard, crooked teeth; the body is large and round, growing out into two parts: the whole body, except the back, and the feet, are covered with long bushy hair; an exact representation of which is delineated in the engraving, which shews the under part of the insect: the extremities of the feet are smooth and large, like the toes of a dog.

This hideous species of the spider tribe preys principally on small birds; in doing which, it tears them to pieces in a cruel manner to get at their blood, and afterwards sucks their eggs.

THE BARBARY SPIDER.

THIS species is as large as a man's thumb, and is a native of Barbary. It inhabits hedges and thickets; its web has large meshes, and it resides in the centre upon its nest. This snare is spread for large flies, wasps, drones, and even locusts. The animal which it entangles is soon killed by the spider, and partly eaten, if the spider be hungry; the rest is concealed under some neighbouring dry leaves, covered with a kind of web, and a blackish glue in great abundance.—Its larder is often plentifully stored.—Its nest is about the size of a pullet's egg, divided horizontally, and suspended by the threads of the in-

sect, which are of a silvery white, and stronger than silk. It carries its eggs in a little bag under its belly, from which the young ones come out, and for a time live in the same web in amity; but, when grown up, are mortal enemies. Whenever they meet, they fight with violence; and their battle only ends with the death of the weakest, whose dead body is carefully stored away in the larder.

THE COMMON SPIDER.



THERE are several species of this insect, but every kind has two divisions in its body. The fore part, containing the head and breast, is separated from the hinder part, or belly, by a very slender thread, though which, however, there is a communication from one part to the other: the fore part is covered with a hard shell, as well as the legs, which adhere to the breast; the hind part is clothed with a supple skin, beset all over with hair. They have several eyes all round the head, brilliant and acute; these are sometimes eight in number, sometimes but six: two behind, two before, and the rest on each side. Like all other insects, their eyes are immoveable, and they want eye-lids; but this organ is fortified with a transparent horny substance, which at once secures and assists their vision. As the animal procures its subsistence by the most watchful attention, so large a number of eyes are necessary to give it the earliest information of the capture of its prey. They have all eight legs, jointed, like those of a lobster, and similar also in other respects. But its principal qualification is making its web, on which indeed, its existence entirely depends.

The females lay six or seven hundred eggs in bags, which they make on purpose, lined within side by a down which they pluck from their own breast. These eggs are generally deposited in August or September, and about sixteen days afterwards the young are hatched.

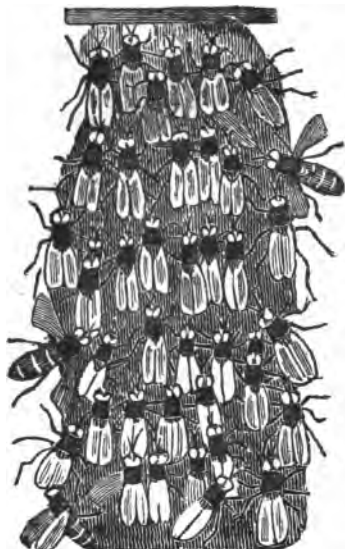
THE SCORPION.



THE scorpion has a distant resemblance in shape to the lobster, but is infinitely more ugly: it also casts its skin as the lobster does its shell. They have eight legs, besides two claws, and eight eyes, three of which are placed on each side of the chest, and two in the middle: the head appears, as it were, jointed to the breast; and the parts, notched into each other, answer the purpose of teeth in breaking the food; on each side of the head is a four-jointed arm terminated by a claw, somewhat like that of a lobster: the belly is divided into seven segments, from the lowest of which the tail commences; this, in the common species, is armed with a hard-pointed and crooked sting, the poison of which is very powerful. There are about nine different kinds of this dangerous insect, chiefly distinguished by their colours; some being yellow, brown, and ash-coloured; others of a rusty iron, green, pale yellow, black, claret-colour, white, and grey. They are very common in all hot countries, and extremely bold and watchful.

The male and female scorpions can be very easily distinguished, from the former being smaller and less hairy, The female brings forth her young alive, and perfect in their kind.

In Italy, Spain, and the south of France, they are frequently to be met with three inches in length, and are considered as the greatest pests that torment mankind; but the size and malignity of the scorpions of Europe may be deemed trifling, when compared with that of the African monsters, that are distinguished by that name. Along the Gold Coast, they are sometimes found larger than a lobster, and their sting is inevitably fatal. From the language of Scripture too, we find that in the East these animals have long been formidable to mankind. In Batavia, they sometimes grow twelve inches in length: and in removing furniture, behind which they skulk, there is the utmost danger of being stung.

THE COMMON BEE.

THE common, or domestic honey-bee, is an insect whose exertions afford us two of the principal necessities of life, food and light; and although they appear to gather the honey and wax merely for their own comfort, yet the industry of man has turned it to his own advantage. The bee is a small insect, of a brown colour, covered on the corselet and belly with hairs: they have four wings and six legs, the thighs are also covered with strong bristles. Each bee is furnished with a kind of a trunk, commonly folded up, but capable of being extended at pleasure. It is with this instrument that they collect their food; not by pumping or sucking, but by licking it from the nectaria of flowers. Observation has proved, it is only the queen and the labouring bee that have stings; and this provision of a sting is perhaps as curious a circumstance as any attending the bee.—The apparatus itself is of a very singular construction, fitted for inflicting a wound, and at the same time conveying a poison into the incision. They have been known to pierce the palm of the hand, which is covered with a thick skin, as deep at the 1-12th of an inch.

There are of the domestic bee, at certain seasons of the year, three kinds in every hive; the males, the females, and the bees without sex: the latter every person is acquainted with; their number is beyond comparison greater than that of the other two kinds; Nature seems to have destined them solely for the purpose of labour, and the whole drudgery of the hive lies upon them; hence they have been properly termed working bees, or labourers. It is only during one or two months of the summer, when the hive is most crowded, that males are found in it; and even then they do not amount to a tenth part of the whole; but they are of a superior size. During the whole course of the season, except a few days, there is only a single female to be discovered in the most numerous hive; her fecundity, however, is so prodigious, that she is soon capable of multiplying her family to such a degree, that the hive can no longer contain it. To her the whole swarm, from ten to twenty thousand, owe their birth. Her residence is generally in the interior apartments of the hive; and when she shows herself, she is readily known by her size, being longer than even the male bees, but inferior in thickness.—From a number of well-attested experiments and observations, it appears that her life is more precious than any of the rest, for she is the soul of all their operations: if a hive is deprived of her, however numerous, its inmates will undertake no labour, and they will hardly give themselves the trouble of collecting their daily subsistence. A swarm that was busy from morning to night, constructing cells and collecting wax, immediately upon this accident seem to forget that the flowers contain their food; they scarcely stir from the hive, construct no new cells, nor even finish what were begun: but the moment she is restored, their wonted spirit and activity is resumed by the whole swarm.

This queen, without the cares of government, is indeed busily occupied, but in functions of a different kind; and these are, the production of a vast number of eggs, which she continues to drop, one after another, into the empty cells, during a considerable part of the summer. This animal, which is so amazingly productive, on being opened, has been found to contain upwards of five thousand eggs, all of a size sufficient to be perceptible. If we make allowance for those that were already dropped, and many more not yet formed, so as to become perceptible, we shall no longer deem it incredible, that this animal should

in one season become the mother of so many thousands. In three weeks' time, the young bees are ready to make their appearance as winged animals, and their first employment in that state, is to gnaw off the wax with which the entrance of their cells had been secured.

When the bees begin to work in their hives, they divide themselves into four companies; one of which roves in the fields in search of materials; another employs itself in laying out the bottom and partitions of the cells; a third is employed in making the inside smooth, from the corners and angles; and the fourth company brings food for the rest, or relieves those who return with their respective burdens. Their diligence and labour are so great, that in a day's time, they are able to make cells which lie upon each other numerous enough to contain three thousand bees. When the bees at any time rest themselves, there is something very particular in their method of taking their repose: it is done by collecting themselves together in a heap, and hanging to each other by their feet, as seen in the engraving: they sometimes extend these heaps to a considerable length. It would seem probable to us, that the bees from which the others hang must have a considerable weight suspended to them. All that can be said is, that the bees must find this situation agreeable to themselves.

THE SILK-WORM.



THIS wonderful insect is found in a native state on mulberry-trees in China, and some other of the eastern countries, from whence it was originally introduced into Europe in the reign of the emperor Justinian; it has, however, at this time become, in a commercial view, one of the most valuable of all insects; affording those delicate and beautiful threads that are afterwards woven into silk, and used in almost all parts of the world.

These insects are, in the warmer climates of the east, left at liberty upon the trees, where they are hatched, and on which they form their cocoons; but in cooler countries, where these animals have been introduced, they

are kept in a room with a south aspect, built for the purpose, and fed every day with fresh leaves. Their eggs are of a straw colour, and about the size of a pin's head. At its birth, the worm is entirely black, and about as long as a small ant; and it retains this colour eight or nine days. These worms are put on wicker shelves, covered first with paper, and on this a bed of the most tender of the mulberry leaves. Several ranges are placed, one above another, in the same chamber, about a foot and a half apart. The scaffolding for these ranges should, however, be in the middle of the room, and the shelves not too deep. At about the expiration of thirty days, they begin to make their cocoons, after which they prepare for their final dissolution.

THE CATERPILLAR.



IN September these insects may be seen in great abundance. They keep together under the cover of a fine web, which they spin to defend themselves from the inclemency of the weather; and in the protection of this they pass the winter months. During this time they are so nearly reduced to a torpid state, as to require no food, nor do they venture out of their general covering till invited by the warmth of the spring. As they afterwards increase in size, they spread abroad in search of food; but their local attachment is very remarkable, for neither the caterpillar nor even the butterfly will stray far from the place where it was bred. Numbers of the latter may sometimes be observed on the wing, in a spot of swampy or marsh land, when not one of them is to be met with in any of the adjacent places. As they fly very low, and frequently settle, they are easily caught. The caterpillars are generally at their full growth about the last week in April; when this takes place they suspend themselves by the tail to change into chrysalis, in which state they remain fourteen days. Their mode of suspension is a singular instance of the extraordinary power of instinct:—They

first draw two or three blades of grass across towards their top, fasten them together by means of their silk, and then hang themselves beneath the centre of these, each having its own little canopy. By this means they are not only hidden from the sight of birds, but defended in a great measure from the damage they might otherwise sustain from windy and boisterous weather. They feed on the devil's-bit, scabious, and various kinds of marsh grasses; eating only the opening leaves as they come up, which renders them sometimes difficult to find. This they do only when the sun shines; for if, in the very act, the sun becomes hidden behind a cloud, they immediately cease; but, on the return of the sun-beams, they recommence their operations with great voracity.

THE PAINTED-LADY BUTTERFLY.



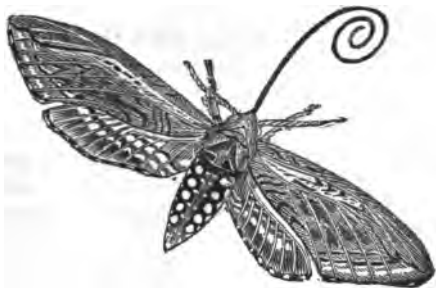
THE butterfly may be said to consist of three parts; the head, the corselet, and the body. The body is the hinder part, and is composed of rings, which are generally concealed under long hairs, with which that part of the insect is clothed: the corselet is more solid than the rest of the body, and in which the four wings, and the legs, are fixed: they have six legs, but make use of only four; the two fore feet are covered by the long hairs of the body, and are sometimes so much concealed, that it is difficult to discover them. The eyes of butterflies have not all the same form; in some they are the larger portion of a sphere; in others they are but a small part of it, and just appearing from the head; in some also they are small, and in others large; but in all of them, the outer coat has a lustre, in which may be discovered all the various colours in the rainbow. It has, likewise, the appearance of a

multiplying-glass, having a great number of sides, or facets, in the manner of a brilliant-cut diamond. In this particular, the eye of the butterfly and of most other insects correspond.

The wings of butterflies are very different to those of any other fly; they have four in number, and though two of them be cut off, the animal is still enabled to fly; they are, in their own substance, transparent, but owe their opacity to the beautiful dust with which they are covered.

The painted-lady butterfly is a species not very common. In some seasons, these insects appear in considerable numbers, and then again are not seen for several years. In point of beauty, this has the highest claim of all; its wings are indented, orange above, variegated with black and white beneath; four eyes on the posterior pair. Its larva, or worm, feeds on nettles, thistles, docks, and other herbage, by the sides of ditches, and changes its state about the middle or latter end of July.

THE SPHINX CAROLINA.



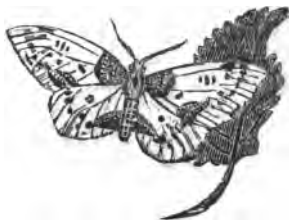
THE larva of this scarce insect is green, with spiracles on every segment, surrounded by a purple ring, and the caudal spine is of the same colour. When full grown, they are thick-set in the middle; their horn or tongue is generally curled; and they have two feelers: their wings clouded, entire, and posterior margin dotted with white; their body has five pairs of white spots.

In America, we are informed, that they are distinguished by the name of tobacco-moths, on account of their feeding entirely on that plant.

THE VEGETABLE FLY.

THIS curious insect is, in size and appearance, not much unlike the cockchaffer; and is found in Dominica, and several other of the West Indian islands. Like all other winged insects, it goes through the several gradations of grub, or caterpillar, and chrysalis; having passed its last transformation, and arrived at its perfect state, that of a fly, it provides for the propagation of its species. Having done this, it prepares for its dissolution. In this stage of its existence it is, that it is so remarkable, and differs so much from every other fly. It now buries itself in the ground, where it dies, and from its body springs up a small plant which resembles a young coffee-tree, only that its leaves are smaller; the plant is often overlooked, from the supposition people have of its being no other than a coffee-plant; but on examining it properly, the difference is easily discovered; the head, feet, and body of the insect, appearing at the foot, as when alive.

THE ELM MOTH.



THE wings of this insect are white, with a double row of pale black spots across the middle; a ferruginous brown spot at the base, and another at the posterior margin of the first pair; likewise a similar spot in the interior margin of the second pair.

This species bears some affinity to the currant moth. It is very rare, and has been hitherto found only in Yorkshire. It appears the third week in June. The larva feeds on the elm; it is green, streaked with black, and has a black head.

THE PERUVIAN LANTERN-FLY.

THIS is undoubtedly one of the most curious of insects: it is of a very considerable size, measuring nearly three inches and a half from the top of the front to that of the tail, and about five inches and a half from wing's end to wing's end, when expanded; the body is of a lengthened oval shape, roundish or subcylindric, and divided into several rings or segments; the length is nearly equal to the length of the rest of the animal, and is oval, inflated, and bent slightly upwards: the ground colour is an elegant yellow, with a strong tinge of green in some parts, and marked with numerous bright red-brown variegations in the form of stripes and spots; the wings are very large, of a yellow colour, most elegantly varied with brown undulations and spots, and the lower pair are decorated by a very large eye-shaped spot on the middle of each, the border of the spot being red, and the centre half red and half semi-transparent white: the head or lantern is pale yellow, with longitudinal red stripes. This beautiful insect is a native of the West Indies, Surinam, and many other parts of South America, and during the night diffuses so strong a phosphoric splendor from its head or lantern, that it may be employed for the purpose of a candle or torch; and it is said that three or four of these insects, tied to the top of a stick, are frequently used by travellers for that purpose.

The number of species of this genus is from twenty to thirty. Of these, most are foreign; only two are natives of our own island, and they are very small, and undistinguished by any shining quality.

THE SNAIL.



THE snail, to the mere transient observer, appears to be little more than a lump of inactive matter, loaded with a crustaceous covering, and totally insensible to all the ob-

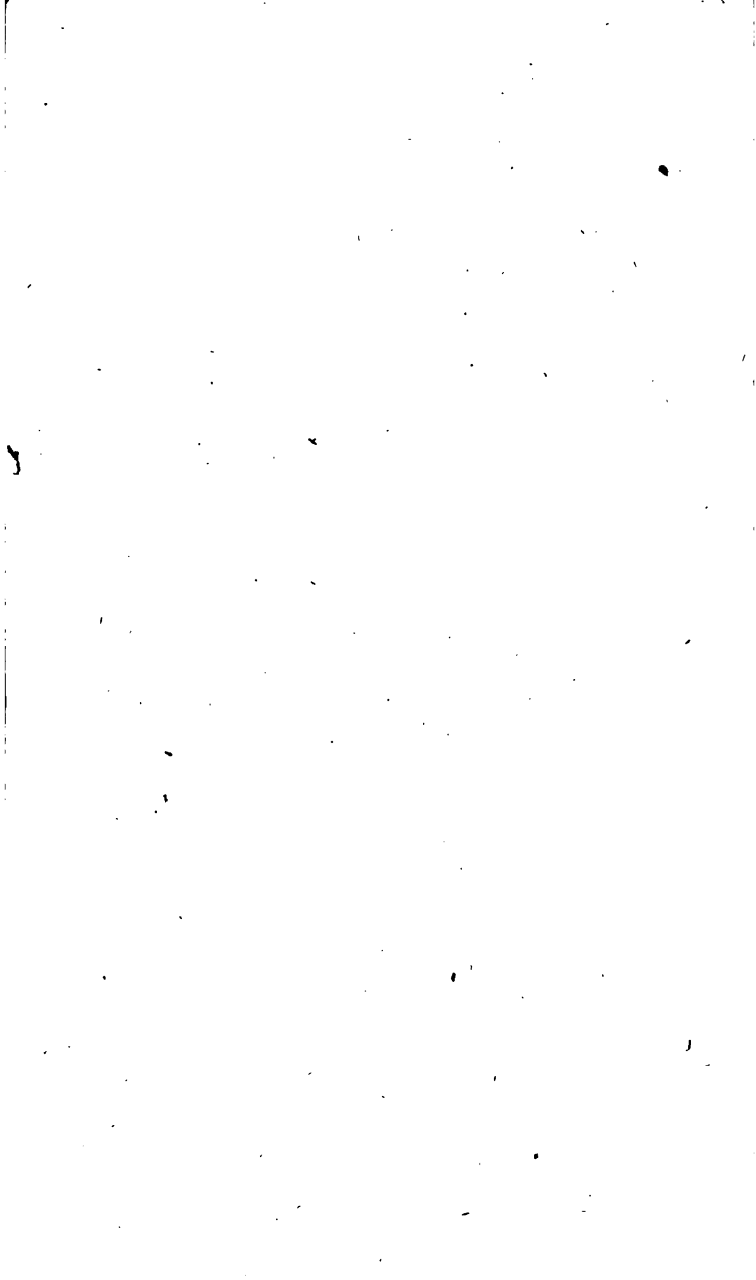
jects with which it is surrounded; but upon a more close inspection, it will be found to be possessed of every faculty that can be possibly requisite for the life it is formed to lead.

Their sizes are no less various than the countries and places in which they are found. They fill up all the intermediate gradations, from that of an apple or egg to the minuteness of a grain of wheat; and in that diversity of size, exhibit all the colours of the rainbow, with the polish of ivory or marble. The eyes of the snail, which are four in number, are lodged in their horns, one at the end of each horn, which they can protude, and retract at pleasure.

Their eggs are round, white, and covered with a soft shell; they produce them in very great numbers, and they are stuck together by a kind of slime, not in a thick bunch, but rather like a bunch of grapes. On quitting the egg, the animal has a very small shell on its back, with only one convolution; this very soon enlarges, and the circles increase with the growth of the animal; never, however, exceeding four rounds and a half in the garden snail, though there are sea snails which sometimes have no less than ten.—They chiefly subsist upon the leaves of plants and trees, but are very delicate in their choice.

Snails are great destroyers of wall-fruit. Lime and ashes sprinkled on the ground where they most resort, will drive them away, and destroy the young brood of them; it is a common practice to pull off the fruit they have bitten; but this should never be done, for they will touch no other till they have wholly eaten up this, if it be left for them; and their instinct is so wonderful, that they know exactly where to return to it.

FINIS.





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